

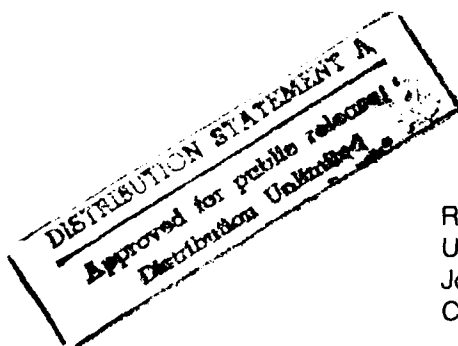
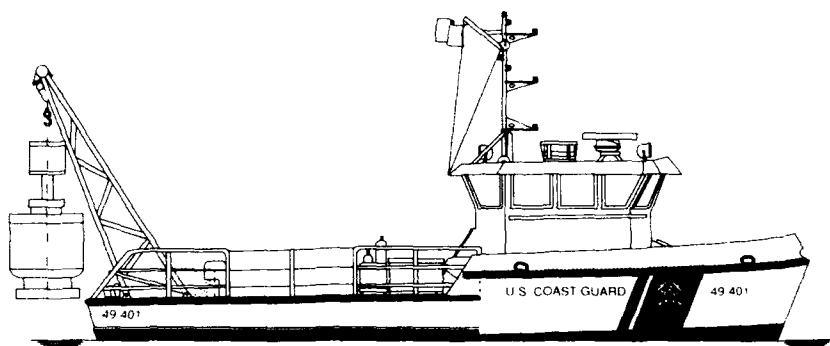
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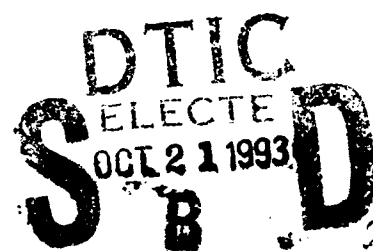
Analysis of USCG Replacement Stern-Loading Buoy Boat Requirements for the Aids to Navigation Mission

Final Report



Research and Special Programs Administration
U.S. Department of Transportation
John A. Volpe National Transportation Systems Center
Cambridge, MA 02142-1093

August, 1993



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The Coast Guard is acquiring new 49-foot stern-loading buoy boats (BUSLRs) to replace its aging fleet of 45-foot and 46-foot buoy boats. Rather than pursue a one-for-one replacement with the new BUSLRs, the Coast Guard asked the Volpe Center to analyze BUSLR requirements using the ATON Service Force Mix (SFM) Decision Support System (DSS). The DSS was developed previously by the Volpe Center in support of the Coast Guard's SFM 2000 Project to help determine the required fleet size and mix of replacement coastal and seagoing tenders (WLMRs and WLBRs) needed to replace the current fleet of WLMs and WLBs. The analysis also includes the buoy work of Coast Guard inland tenders (WLIs) and inland construction tenders (WLICs) and the assurance of adequate secondary response capabilities for home ports proposed for elimination by the SFM 2000 Project. The results of this analysis indicate a projected Coast Guard requirement of 44 BUSLRs. This document is available from the National Technical Information Service, Springfield, VA 22161.

**ANALYSIS OF USCG
REPLACEMENT
STERN-LOADING BUOY BOAT
REQUIREMENTS
FOR THE
AIDS TO NAVIGATION MISSION**

August, 1993

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<p>13. ABSTRACT (Maximum 200 words)</p> <p>At present, 19 Coast Guard Aids to Navigation Teams (ANTs) and one Search and Rescue Station (Burlington, VT) are using 13 46-foot stern-loading buoy boats (BUSLs) and 12 45-foot bow-loading buoy boats (BUS). All 25 of these boats are now or will soon be in need of replacement. In 1983 there were 33 BU/BUSLs: eight of those have since been retired due to poor condition.</p> <p>Rather than pursue a one-for-one replacement with the new 49-foot stern-loading buoy boats (BUSLRs) currently being built, the Coast Guard asked the Volpe Center to analyze BUSLR requirements using the ATON Service Force Mix (SFM) Decision Support System (DSS). The DSS was developed previously by the Volpe Center in support of the Coast Guard's SFM 2000 Project to help determine the required fleet size and mix of replacement coastal and seagoing tenders (WLMRs and WLBRs) needed to replace the current fleet of WLMs and WLBS.</p> <p>In addition to the work being performed by BUS and BUSLs, the Volpe Center considered two other areas for BUSLR employment: the buoy work of Coast Guard inland tenders (WLIs) and inland construction tenders (WLICs); and the assurance of adequate secondary response capabilities for the current WLM and WLB home ports proposed for elimination by the SFM 2000 Project.</p> <p>The results of this analysis indicate a projected Coast Guard requirement of 44 BUSLRs.</p>					
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PREFACE

At present, 19 Coast Guard Aids to Navigation Teams (ANTs) and one Search and Rescue Station (Burlington, VT) are using 13 46-foot stern-loading buoy boats (BUSLs) and 12 45-foot bow-loading buoy boats (BUs). All 25 of these boats are now or will soon be in need of replacement. In 1983 there were 33 BU/BUSLs: eight of those have since been retired due to poor condition.

Rather than pursue a one-for-one replacement with the new 49-foot stern-loading buoy boats (BUSLRs) currently being built, the Coast Guard asked the Volpe Center to analyze BUSLR requirements using the ATON Service Force Mix (SFM) Decision Support System (DSS). The DSS was developed previously by the Volpe Center in support of the Coast Guard's SFM 2000 Project to help determine the required fleet size and mix of replacement coastal and seagoing tenders (WLMRs and WLBRs) needed to replace the current fleet of WLMs and WLBs.

In addition to the work being performed by BUs and BUSLs, the Volpe Center considered two other areas for BUSLR employment: the buoy work of Coast Guard inland tenders (WLIs) and inland construction tenders (WLICs); and the assurance of adequate secondary response capabilities for the current WLM and WLB home ports proposed for elimination by the SFM 2000 Project.

The results of this analysis indicate a projected Coast Guard requirement of 44 BUSLRs.

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LIST OF ACRONYMS

ANB	aids to navigation boat
ANT	aids to navigation team
AOPS	abstract of operations
ATON	aids to navigation
ATONIS	aids to navigation information system
BRIDGE	bridge administration
BU	buoy boat
BUSL	buoy boat - stern loading
BUSLR	buoy boat - stern loading replacement vessel
CADET/OC	cadet and officer candidate training
CAPT	Captain
CDR	Commander
CO	commanding officer
COOP	cooperation with other agencies
COTP	Captain of the Port
D1	First Coast Guard District (Boston, MA)
D2	Second Coast Guard District (St. Louis, MO)
D5	Fifth Coast Guard District (Portsmouth, VA)
D7	Seventh Coast Guard District (Miami, FL)
D8	Eighth Coast Guard District (New Orleans, LA)
D9	Ninth Coast Guard District (Cleveland, OH)
D11	Eleventh Coast Guard District (Los Angeles, CA)
D13	Thirteenth Coast Guard District (Seattle, WA)
D14	Fourteenth Coast Guard District (Honolulu, HI)
D17	Seventeenth Coast Guard District (Juneau, AK)
DBN	day beacon
DGPS	differential global positioning system
DOM ICE	domestic icebreaking
DOT	Department of Transportation
DSS	decision support system
ELT	enforcement of laws and treaties
FY	fiscal year
G-CPA	USCG Programs Division
G-E	USCG Office of Engineering & Development
G-M	USCG Office of Marine Safety, Security, & Environmental Protection
G-N	USCG Office of Navigation Safety & Waterway Services
G-NSR	USCG Short Range Aids to Navigation Division
G-O	USCG Office of Law Enforcement & Defense Operations
G-P	USCG Office of Personnel & Training
G-R	USCG Office of Readiness & Reserve
GIS	geographical information system

I/O	in-port operations
KDP	key decision point
LB	lighted buoy
LCDR	Lieutenant Commander
LT	fixed light
MER	marine environmental response
MIL OPS	military operations
MIL TRA	military training
MIO	marine inspection operations
MISC	miscellaneous and other operations
MNS	mission needs statement
MTMC	Military Traffic Management Command
MSA	marine science activities
MSO	Marine Safety Office
NOAA	National Oceanic and Atmospheric Administration
O&M	operating and maintenance
OP TRA	operational training
PC	personal computer
PIA	public and international affairs
PSS	port safety and security
RADNAV	radionavigation
RBS	recreational boating safety
RESERVE	reserve training
RHIB	rigid hull inflatable boat
RSPA	Research and Special Programs Administration
SAR	search and rescue
SFM	service force mix
SRA	short range aids
SRD	sponsor's requirements document
TANB	trailerable aids to navigation boat
ULB	unlighted buoy
USCG	United States Coast Guard
USCGC	United States Coast Guard cutter
VNTSC	Volpe National Transportation Systems Center
WLB	seagoing buoy tender
WLBR	seagoing buoy tender replacement vessel
WLI	inland buoy tender
WLIC	inland construction buoy tender
WLM	coastal buoy tender
WLMR	coastal buoy tender replacement vessel
WLR	river buoy tender

INTRODUCTION

This report documents the results of the Volpe Center's analysis of the number of replacement stern-loading buoy boats (BUSLRs) required for the U.S. Coast Guard's Aids to Navigation (ATON) mission.

At present, 19 Coast Guard Aids to Navigation Teams (ANTs) and one Station (Burlington, VT) are using 13 46-foot stern-loading buoy boats (BUSLs), and 12 45-foot bow-loading buoy boats (BUs). All 25 of these boats are now or will soon be in need of replacement. In 1983 there were 33 BU/BUSLs: eight of those have since been retired due to poor condition. As a result, some ANTs are maintaining buoys using 55-foot Aids to Navigation Boats (ANBs), which were designed for fixed aid maintenance and have marginal buoy working capabilities. Other ANTs are accomplishing their buoy work by stretching the capabilities of the 21-foot Trailerable Aids to Navigation Boats (TANBs), which have small cargo booms.

Rather than pursue a one-for-one replacement with BUSLRs, the Coast Guard has asked the Volpe Center to analyze BUSLR requirements using the ATON Service Force Mix (SFM) Decision Support System (DSS). The DSS was developed previously by the Volpe Center in support of the SFM 2000 Project to help determine the required fleet size and mix of WLMRs and WLBRs to replace the current fleet of WLMs and WLBs.

In addition to replacing BUs and BUSLs, the Coast Guard is investigating the applicability of the BUSLR platform to two other areas of the ATON mission: off-loading of some or all of the buoy work being performed by inland tenders (WLIs) and inland construction tenders (WLICs); and the back-filling of current WLM/WLB resources being eliminated by SFM 2000. The Volpe Center's analysis of BUSLR requirements includes both of these areas.

ASSUMPTIONS

Aid information was taken from the Spring, 1991 NSR ATONIS data capture used by the SFM 2000 Project. It was assumed that no significant changes have occurred in aid assignments during the interim.

Only buoys (i.e., no structures) were considered to be aids that would be serviced by buoy boat platforms (BUs, BUSLs, and BUSLRs). Buoys considered to be serviceable by BUSLRs are those currently assigned to ANTs and all WLI/WLIC buoys weighing less than 4,500 lbs. Although some ANTs currently use platforms other than BUs and BUSLs to service buoys, such as ANBs and TANBs, it was assumed that buoy boats are more efficient platforms for regular buoy servicing (non-discrepancies), and that BUSLRs would be used in the future as the primary ANT platform for regular buoy servicing.

All BUSLR projections assume that staffing will be available to match boat resources. To ensure this requirement is met, analysis of staffing requirements may be necessary for those locations where projected BUSLRs differ from the current count of BUs and BUSLs.



Artist's Rendition of the BUSLR

ABSTRACT OF OPERATIONS BOAT UNDERWAY HOURS

Abstract of Operations (AOPS) data for BUs and BUSLs covering 1990 through 1992 was analyzed for two purposes: to provide a measure of ATON underway hours against which DSS outputs for current operations could be compared; and to gain a perspective on how many underway hours a BUSLR could be expected to deliver. Seventy-seven annual boat records, representing 27 boats, were examined. Table 1 shows a statistical profile of the AOPS data.

TABLE 1. BOAT AOPS ATON UNDERWAY HOURS

Years:	1990-1992
BU/BUSL Records:	77
BUs/BUSLs:	27
Average ATON Hours:	550
Median ATON Hours:	434
Maximum ATON Hours:	2300
(ANT Demopolis BU, 1991)	
Records having ATON Hours > 900:	10
(D8: 8, D1: 2)	

Although the BUSLR platform is not considered to be significantly more capable than the BU or BUSL platforms, it would be unreasonable to base BUSLR underway hours on either the average, median, or maximum reported BU/BUSL underway hours. The AOPS data shows usage, but provides no measure of the underway capacity of either the boats or boat crews.

DETERMINATION OF MAXIMUM BUSLR UNDERWAY HOURS

For this analysis, the approach developed for determining the maximum BUSLR underway hours resulted in an underway hours range of 720 to 900 hours for buoy work. Design specifications for the BUSLR requires the capability to achieve 1,200 underway hours per year. Based upon the 1990-92 AOPS data, BUs and BUSLs devote an average of 15% of their underway hours to non-ATON missions (primarily Operational Training and Enforcement of Laws and Treaties). Allocating 15% of the 1,200 underway hours to non-ATON missions reduces the available number of ATON underway hours by 180.

Buoy boat platforms are designed for the servicing of buoys. The boats are not efficient platforms for servicing fixed structures. However, if a buoy boat is working buoys in an area that includes fixed structures, it can be inefficient for ANT personnel to revisit the area a second time to work the fixed structures. This is especially true in remote areas having buoys but few structures. As a result, buoy boats will sometimes work fixed structures. The actual percentage of time buoy boats are employed working fixed structures cannot be determined from the AOPS data. An estimate of 10% of underway hours was adopted for this analysis. Allocating 10%

of the 1,200 underway hours to the working of fixed structures reduces the available number of ATON underway hours by 120.

Deducting the underway hours for non-ATON missions and fixed structure work leaves a total of 900 underway hours for working buoys. Considering the current AOPS BU and BUSL utilization figures of Table 1, 900 hours is significantly greater than current average utilization figures. The difference would be most pronounced when only one BUSLR is projected for an ANT that currently has two buoy boats. In such cases, further consideration may be warranted. However, when compared to the BU and BUSL platforms, the greater reliability expected of the new BUSLR platform and the advantages offered by improvements in ATON technology (such as DGPS) should help off-set the impact of a reduction in a unit's boat resources.

The DSS addresses only ATON primary responsibility requirements. ANTs, however, act as both primary and secondary response platforms. Secondary responsibility, whereby ANTs provide back-up response capability to tenders (WLBs, WLMs, etc.), needs to be accounted for in the underway hours of an ANT BUSLR. For current operations, a breakdown does not exist in the Abstract of Operations between primary and secondary response utilization. It was assumed, however, that currently the secondary response requirements of ANTs are met primarily through use of the faster ANB and TANB platforms because they are better-suited for transporting ANT personnel to discrepant coastal and off-shore aids. The Abstract of Operations data reported for ANT BUs and BUSLs was therefore considered to be in support of ATON primary response requirements.

Projected technological improvements in the servicing of aids to navigation indicate that BUSLR requirements may be expected to increase as improved servicing technology decreases the need for large heavy-lift platforms. An assessment of the potential impacts is currently being performed. As better data about future operations become available, adjustments to current fleet size and mix projections will be made.

It was estimated that the BUSLR will average 80% of its buoy-working underway time on primary response requirements and 20% on secondary. Therefore, the BUSLR lower underway limit for ATON primary responsibility was set at 720 hours, representing 80% of the BUSLR 900 hour maximum.

The lower limit of 720 hours was viewed as the "optimal" number of hours a BUSLR would be employed on primary response requirements. However, recognizing the impracticality of projecting two BUSLRs wherever 721 primary response hours might be required, only one BUSLR was assigned whenever the DSS projected a BUSLR requirement of up to 900 hours. In addition, for a unit requiring up to 25% more than the upper BUSLR limit ($1.25 * 900 = 1,125$ hours), the choice between one or two BUSLRs was based on four factors: the current number of buoy boats assigned to the unit; the number of seasonal buoys assigned to the unit; the ability to off-load buoys to BUSLRs of adjacent units; and the overall availability of BUSLRs within a district. The fourth factor acknowledges the need for providing surge response to meet the impacts of extreme weather and/or unscheduled boat maintenance.

Table 2 summarizes the process used to determine the target range of BUSLR maximum underway hours for primary responsibility buoy work.

TABLE 2. DETERMINATION OF
MAXIMUM BUSLR UNDERWAY HOURS

	UNDERWAY HOURS
Annual design specification for BUSLR:	1,200
Less 15% for non-ATON missions:	-180
Less 10% for non-buoy ATON work:	-120
High-end target for primary responsibility buoy work:	900
Less 20% for secondary responsibility buoy work:	-180
Low-end target for primary responsibility buoy work:	720

DETERMINATION OF MINIMUM BUSLR UNDERWAY HOURS

The minimum number of reported DSS hours required to justify the assignment of a BUSLR was set at 100 hours. The acquisition of a platform, estimated to cost one million dollars, in order to provide 100 hours may not appear cost-effective, but the following considerations need to be included:

- ▶ DSS projections are for primary response hours only; BUSLRs will also provide secondary response capabilities.
- ▶ Additional requirements for BUSLR capabilities should increase if the requirements for large heavy-lift platforms decrease.
- ▶ Unlike the WLMRs and WLBRs, the BUSLR design does not represent significantly improved operational capabilities over the platforms it is replacing. Therefore, the opportunity to combine ANT operating areas and consolidate BUSLR requirements does not exist as it does with the WLMRs and WLBRs.

PROJECTED BUSLRs FOR ANTs

ANTs having any of the following were included in this analysis:

- ▶ One or more BUs or BUSLs;
- ▶ Over 50 assigned buoys in ATONIS; or
- ▶ Over 30 assigned buoys in ATONIS of which more than 10 exceed 1,000 lbs.

Table 2A shows, by district, the units meeting the above criteria and their ATON and boat profiles. Table 2B shows that the projected number of BUSLRs for ANT operations is 24. The columns of Table 2B are:

1990-92 BU/BUSL Hours: Abstract of Operations (AOPS) average annual total ATON underway hours for BUs and BUSLs from 1990 to 1992. The profile of BUSLs and BUs under "CURRENT BOATS" in Table 2A are as of May, 1993. Because of changes in unit boat profiles since 1990, boat profiles shown may not coincide with AOPS hours.

DSS BUSLR Hours: The required BUSLR hours reported by the DSS. Appendix A contains BUSLR operating parameters and the times required of a BUSLR crew to perform the different types of buoy servicings. Appendix B contains the DSS one-page summary reports for the ANT BUSLRs.

Weather and Discrep(ancy) Scale Factor: The ratio, by district, of the SFM 2000 replacement fleet's total underway hours to total underway hours minus the sum of weather impact hours and discrepancy response hours. These factors were used to scale up the DSS BUSLR Hours to account for weather and discrepancy impacts. The SFM 2000's Expert Study had collected weather and discrepancy data from district offices and buoy tender commanding officers. Appendix C shows the table used in developing these factors.

Scaled DSS BUSLR Hours: The projected required BUSLR hours computed from DSS BUSLR Hours multiplied by the Weather and Discrepancy Scale Factor. By applying the minimum and maximum BUSLR underway hour criteria, this figure was the basis for determining the projected number of BUSLRs.

Projected Boats: The projected number of BUSLRs, ANBs, ANLBs, and TANBs.

For most locations, Table 2B's BUSLR projections were based on a straight application of the BUSLR minimum and maximum underway hours criteria. However, special consideration was required at three locations:

- ▶ Due to the changing nature of the rivers of the Eighth District, aid locations for D8 ANTs are not recorded in ATONIS. The DSS therefore can not be applied to D8 ANT operations. Based upon AOPS underway hours, maintaining the current boat counts appears justified at three of the four ANTs (Eufaula, Selma, and Chattahoochee). AOPS data for ANT Demopolis, however, shows an average of 3,394 ATON underway hours per year between two BUs. Based upon its high total of underway hours, ANT Demopolis may warrant more BUSLRs than is indicated by its current count of two BUs.

However, a recently approved Eighth District Planning Proposal calls for replacement of the D8 ANT BUs with resources other than buoy boats. This analysis assumes full implementation of the Planning Proposal results and therefore projects zero BUSLRs for the D8 ANTs.

- ▶ ANT San Francisco (D11) currently has one ANB and no BUs or BUSLRs. However, the ANT has primary responsibility for 33 buoys, of which 15 have weights significantly greater than the 1,000 lb. lift limit of ANBs. Of those buoys, two weigh over 10,000 lbs, which is greater than twice the lift limit of buoy boats. Apparently, the ANT is currently being supported by additional buoy-servicing resources. Accordingly, the projected BUSLR for ANT San Francisco was based upon the BUSLR working all but the two 10,000-pound buoys.
- ▶ There were no aid locations recorded in ATONIS for ANT Bluebell (D13). However, the total number of buoys recorded for the Thirteenth District in ATONIS is approximately equal to the District's reported total (590 versus 605, respectively). It was concluded that, unlike D8's ANTs which also lacked aid locations, ANT Bluebell has no assigned buoys. Accordingly, although the ANT currently has one BU, no BUSLRs were projected for ANT Bluebell.

TABLE 2A. ANT ATON AND BOAT PROFILES


Dis- trict	State	Unit Name	*****ATON PROFILE*****				*****CURRENT BOATS*****				
			Perm. Buoys	Sea- sonal Buoys	LTs DBNs & Others	Buoys >1000 Lbs.	BUSLs	BUS	ANBs	ANLBs	TANBs
1	CT	ANT LONG ISLAND SOUND	410	80	166	437	1	0	1	0	2
1	MA	ANT WOODS HOLE	238	13	78	210	0	1	1	0	2
1	MA	ANT BOSTON	309	67	29	268	2	0	0	0	2
1	ME	ANT SOUTHWEST HARBOR	244	15	31	248	1	0	1	0	1
1	ME	ANT SOUTH PORTLAND	324	26	38	322	2	0	0	0	1
1	NY	ANT NEW YORK	297	79	94	373	2	0	0	0	2
1	NY	ANT SAUGERTIES	51	35	68	85	0	1	0	0	1
1	NY	ANT MORICHES	230	53	77	221	1	1	0	1	1
1	RI	ANT BRISTOL	228	2	30	143	0	1	0	0	1
1	VT	CG STATION BURLINGTON	75	23	44	0	1	0	0	0	1
		District 1 Totals	2406	393	655	2307	10	4	3	1	14
5	NJ	ANT CAPE MAY	261	208	281	216	1	0	1	0	2
5	PA	ANT PHILADELPHIA	48	11	143	55	0	1	0	0	1
5	VA	ANT CHINCOTEAGUE	41	8	393	37	0	1	0	0	1
5	VA	ANT KENNEBEC	45	9	433	38	0	0	1	0	1
5	VA	ANT MILFORD HAVEN	85	6	428	76	0	0	1	0	2
		District 5 Totals	480	242	1678	422	1	2	3	0	7
8	AL	ANT EUFAULA	0		0	0	0	1	0	0	0
8	AL	ANT DEMOPOLIS	0		0	0	0	2	0	0	0
8	AL	ANT SELMA	0		0	0	0	1	0	0	0
8	FL	ANT CHATTAHOOCHEE	0		0	0	0	1	0	0	0
		District 8 Totals	0	0	0	0	0	5	0	0	0
9	MI	ANT GRAND HAVEN	17	72	71	4	1	0	0	0	1
9	MI	ANT DETROIT	62	161	65	147	0	0	1*	0	1
9	NY	ANT BUFFALO	20	67	118	56	1	0	0	0	1
		District 9 Totals	99	300	254	207	2	0	1	0	3
11	CA	ANT SAN FRANCISCO	29	4	285	15	0	0	1	0	1
		District 11 Totals	29	4	285	15	0	0	1	0	1
13	OR	ANT BLUEBELL	0		0	0	0	1	0	0	2
		District 13 Totals	0	0	0	0	0	1	0	0	2
		Report Totals	3014	939	2872	2951	13	12	8	1	27

* ANT Detroit's ANB is actually a 63-foot prototype BUSL with capabilities similar to the 49-foot BUSLR.

DB: ANT SX (Subset of ANTs)
REPORT #: 7

TABLE 2B. PROJECTED BOATS FOR ANT's
USING THE ATON SFM DSS

Dis- trict	State	Unit Name	1990-92	Weather&	Scaled	*****PROJECTED BOATS*****				
			AOPS	DSS	Discrep.	DSS	BUSLRs	ANBs	ANLBs	TANBs
			BU/BUSL Hours	BUSLR Hours	Scale Factor	BUSLR Hours				
1	CT	ANT LONG ISLAND SOUND	559	918	1.43	1313	2	0	0	2
1	MA	ANT WOODS HOLE	420	320	1.43	458	1	1	0	2
1	MA	ANT BOSTON	899	755	1.43	1080	2	0	0	2
1	ME	ANT SOUTHWEST HARBOR	726	474	1.43	678	1	1	0	1
1	ME	ANT SOUTH PORTLAND	719	754	1.43	1078	2	0	0	1
1	NY	ANT NEW YORK	1082	768	1.43	1098	2	0	0	2
1	NY	ANT SAUGERTIES	417	315	1.43	450	1	0	0	1
1	NY	ANT MORICHES	585	645	1.43	922	1	0	1	1
1	RI	ANT BRISTOL	336	247	1.43	353	1	0	0	1
1	VT	CG STATION BURLINGTON	185	214	1.43	306	1	0	0	1
		District 1 Avgs. & Totals	593	541	1.43	774	14	2	1	14
5	NJ	ANT CAPE MAY	1071	1432	1.23	1761	2	1	0	2
5	PA	ANT PHILADELPHIA	372	135	1.23	166	1	0	0	1
5	VA	ANT CHINCOTEAGUE	550	139	1.23	171	1	0	0	1
5	VA	ANT KENNEBEC		108	1.23	133	1	0	0	1
5	VA	ANT MILFORD HAVEN		236	1.23	290	1	0	0	2
		District 5 Avgs. & Totals	664	410	1.23	504	6	1	0	7
8	AL	ANT EUFAULA	295		1.37	0	0	0	0	0
8	AL	ANT DEMOPOLIS	3394		1.37	0	0	0	0	0
8	AL	ANT SELMA	848		1.37	0	0	0	0	0
8	FL	ANT CHATTAHOOCHEE	557		1.37	0	0	0	0	0
		District 8 Avgs. & Totals	1273		1.37	0	0	0	0	0
9	MI	ANT GRAND HAVEN	71	219	1.11	243	1	0	0	1
9	MI	ANT DETROIT		762	1.11	846	1	0	0	1
9	NY	ANT BUFFALO	179	480	1.11	533	1	0	0	1
		District 9 Avgs. & Totals	125	487	1.11	541	3	0	0	3
11	CA	ANT SAN FRANCISCO		409	1.68	687	1	0	0	1
		District 11 Avgs. & Totals		409	1.68	687	1	0	0	1
13	OR	ANT BLUEBELL			1.75	0	0	0	0	2
		District 13 Avgs. & Totals			1.75	0	0	0	0	2
		Report Averages & Totals	698	491	1.36	524	24	3	1	27

 : Denotes a change from an ANT's current BU/BUSL or ANB numbers.

DB: ANT SX (Subset of ANT's)
REPORT #: 8

PROJECTED BUSLRs FOR WLIs AND WLICs

The Coast Guard currently operates a fleet of six WLIs, five of which were constructed prior to 1954 and the sixth of which was constructed in 1963. Because of the comparatively low cost of the BUSLR and its ability to work most of the buoys presently worked by WLIs, the Coast Guard intends to transfer as much as possible of the WLI buoy work to BUSLRs.

The Coast Guard's current WLIC fleet consists of four types of tenders: there are nine 75-foot tenders that push barges; one tender that had been a 100-foot WLI but was modified to include a construction rig; two 100-foot tenders that push barges; and four newer 160-foot WLICs that are similar to tender/barges but are self-contained units.

The primary purpose of WLICs is to build, or rebuild if destroyed, fixed aids to navigation. Because WLICs are capable of working buoys, they have been tasked to various levels with buoy work. However, as the 75-foot and 100-foot WLICs reach the end of their service lives, the Coast Guard recognizes the cost-effectiveness of replacing only the construction component of the WLICs and off-loading as much as possible of their buoy work onto BUSLRs.

Of the 2,238 buoys being serviced by WLIs and WLICs, 2,038 weigh less than 4,500 pounds and therefore are considered serviceable by the BUSLR. For those buoys, the DSS was run twice: first to determine how many hours are required by the WLIs and WLICs to service the buoys; and second to project how many hours would be required of a BUSLR. In both cases, the resulting ATON underway hours were multiplied by the same Weather and Discrepancy Scale Factors developed for ANTs from the SFM 2000 results (see Appendix C). The operating parameters used for the current WLI/WLIC fleet are contained in Appendix D.

The 200 buoys currently serviced by WLIs and WLICs that are beyond the 4,500-pound lift limit of BUSLRs are broken out by primary unit in Appendix E. Depending upon the combined results of this analysis and the follow-on WLIC fleet-sizing study, provisions will be necessary for assigning those buoys to non-BUSLR platforms.

Tables 3 and 4 show the vessels of the current WLI and WLIC fleets, respectively. The tables also show that the projected number of required BUSLRs for WLI operations is 7, and the projected number for WLIC operations is 10. The last six columns of both tables are as follows:

Buoys BUSLRs Can Work (≤ 4500 lbs): The number of buoys assigned to each WLI/WLIC that can be worked by a BUSLR.

Buoys > 1000 & ≤ 4500 Lbs: Of the buoys BUSLRs can work, this is how many can not be worked by other common ANT resources (ANBs or TANBs).

1990-92 AOPS ATON Hours: The average annual underway hours recorded by the WLI/WLIC for performing ATON work. This number includes fixed structure work, and therefore is not entirely applicable to BUSLR operations.

Scaled WLI/WLIC DSS Hours: The number of hours reported by the DSS for the WLI or WLIC to service its BUSLR-serviceable buoys, scaled up by the relevant district's Weather/Discrepancy Scale Factor. See Appendix F for the one-page DSS summary sheets for the WLIs and WLICs, and Appendix C for the derivation of the Weather/Discrepancy Scale Factors.

Scaled BUSLR DSS Hours: The number of hours reported by the DSS for a BUSLR to service the WLI's or WLIC's BUSLR-serviceable buoys, scaled up by the relevant district's Weather/Discrepancy Scale Factor. By applying the criteria described previously for minimum and maximum BUSLR underway hours, this figure was the basis for determining the projected number of BUSLRs. See Appendix G for the one-page DSS summary sheets for the BUSLRs, and Appendix C for the derivation of the Weather/Discrepancy Scale Factors.

Projected BUSLRs: The projected number of BUSLRs required to work the WLI's or WLIC's BUSLR-serviceable buoys.

For most locations, the BUSLR projections of Tables 3 and 4 were based on a straight application of the BUSLR minimum and maximum underway hours criteria. However, special consideration was required at three locations:

- ▶ In Table 3, two BUSLRs were projected for the WLI Bluebell, home ported in Portland (OR), although only 719 BUSLR hours were projected. Using the standard BUSLR parameters, the DSS reported that a Portland BUSLR could not perform the required transit to the upper Columbia River and its tributaries. The 719 hours was actually the combined total of one BUSLR at Portland and one BUSLR at Station Kennewick (WA).
- ▶ The four Eighth District WLIC home ports each host two WLICs. Therefore the D8 BUSLR projections in Table 4 were aggregated by port rather than by WLIC.
- ▶ DSS results showed that the two BUSLRs projected for Mobile could not cover the entire buoy operating area of the WLIC Axe. However, two BUSLRs would be adequate if one was home ported at the eastern end of the area. The 1,495 hours and two BUSLRs shown in Table 4 for the Axe represent one BUSLR at Mobile (which could also do the WLIC Saginaw's buoy work) and a second at ANT Panama City.

**TABLE 3. PROJECTED BUSLRs TO REPLACE
WLI BUOY SERVICING FUNCTIONS**

Dis- trict	State	Unit Name	City	Type	Buoys BUSLRs Can Work (≤4500)	Buoys >1000& ≤4500 Lbs.	1990-92 AOPS ATON Hours	Scaled WLI/WLIC DSS Hours	Scaled BUSLR DSS Hours	Projected BUSLRs
5	MD	CHOKEBERRY	CRISFIELD	WLI(65)	31	15	552	89	101	1
5	NC	BLACKBERRY	SOUTHPORT	WLI(65)	110	31	843	299	339	1
		District 5 Totals & Averages			141	46	698	194	220	2
9	MI	BUCKTHORN	SAULT STE. MARIE	WLI(100)	261	119	559	667	813	1
		District 9 Totals & Averages			261	119	559	667	813	1
13	OR	BLUEBELL	PORTLAND	WLI(100)	89	82	1651	271	719	2
13	WA	BAYBERRY	SEATTLE	WLI(65)	59	57	1314	231	326	1
		District 13 Totals & Averages			148	139	1483	251	522	3
17	AK	ELDERBERRY	PETERSBURG	WLI(65)	28	12	1203	266	312	1
		District 17 Totals & Averages			28	12	1203	266	312	1
		Fleet Totals & Averages			578	316	1020	304	435	7
DB: WLIS.DB REPORT #: 4										

**TABLE 4. PROJECTED BUSLRs TO REPLACE
WLIC BUOY SERVICING FUNCTIONS**

Dis- trict	State	Unit Name	City	Type	Buoys BUSLRs Can Work (≤4500)	Buoys >1000& ≤4500 Lbs.	1990-92 AOPS ATON Hours	Scaled WLI/WLIC DSS Hours	Scaled BUSLR DSS Hours	Projected BUSLRs
5	MD	SLEDGE	BALTIMORE	WLIC (75)	132	132	1858	272	550	1
5	VA	KENNEBEC	PORTSMOUTH	WLIC (160)			2337	0	0	0
5	NC	PRIMROSE	ATLANTIC BEACH	WLIC (100)	10	9	2438	57	59	0
		District 5 Totals & Averages			142	141	2211	109	203	1
7	SC	RAMBLER	CHARLESTON	WLIC (100)	35	34	1213	75	136	1
7	GA	SMILAX	BRUNSWICK	WLIC (100)	23	18	2403	84	132	1
7	FL	HAMMER	MAYPORT	WLIC (75)	8	2	1426	44	44	0
7	FL	HUDSON	MIAMI	WLIC (160)	27	12	2124	64	131	1
7	FL	WISE	ST PETERSBURG	WLIC (75)	3	3	1660	34	32	0
		District 7 Totals & Averages			96	69	1765	60	95	3
8	AL	AXE	MOBILE	WLIC (75)	317	108	1658	1003	1495	2
8	AL	SAGINAW	MOBILE	WLIC (160)	56	33	2248	111	185	
8	LA	WEDGE	NEW ORLEANS	WLIC (75)	14	9	1083	97	33	
8	LA	PAMLICO	NEW ORLEANS	WLIC (160)	88	28	1956	308	507	1
8	TX	CLAMP	GALVESTON	WLIC (75)	119	39	1328	153	234	
8	TX	HATCHET	GALVESTON	WLIC (75)	129	8	1370	249	533	1
8	TX	ANVIL	CORPUS CHRISTI	WLIC (75)	216	3	1512	404	701	2
8	TX	MALLET	CORPUS CHRISTI	WLIC (75)	283	11	1845	482	1104	
		District 8 Totals & Averages			1222	239	1625	351	599	6
		Fleet Totals & Averages			1460	449	1779	215	367	10
DB: WLICS.DB REPORT #: 4										

PROJECTED BUSLRs DUE TO SFM 2000 PROJECTIONS

The Service Force Mix 2000 Project proposed a reduction of seven tenders from the current fleet of WLMs and WLBRs. The seven affected home ports were New York, Woods Hole, Philadelphia, Portsmouth (VA), New Orleans, Duluth, and Kodiak. In addition, an eighth tender currently home ported in Mayport, FL would be replaced by a new tender ported in Miami. SFM 2000 proposed the placement of one BUSLR in New Orleans in order to effect that port's removal from the domain of WLMR/WLBR home ports. Concerning the impact of vacating the other seven current home ports, the study concluded the following:

".....In terms of assigned number of ATON, the proposed replacement fleet does not impose a greater secondary response requirement on ANTs. However, it is possible that the impact of the potentially greater discrepancy response times of the replacement fleet might be alleviated if selected ANTs were provided with BUSLRs. One possibility might be to place BUSLRs in the current home ports being vacated by the replacement fleet." [SFM 2000, Volume I, pg 6-10.]

A review of the eight affected home ports in light of the projected number of BUSLRs required to replace BUs, BUSLs, WLIs, and WLICs determined that, except for New Orleans and Duluth, an adequate BUSLR capability would be available at each of the other six ports to cover the potentially greater ANT response requirements.

Table 5 outlines the projected BUSLRs required due to the impacts of SFM 2000. Following the table, the Duluth and New Orleans situations are described in greater detail.

TABLE 5. BUSLRs REQUIRED DUE TO
SFM 2000 PROJECTIONS

Dis- trict	State	Current WLM/WLB City	Type	ANT & WLI/WLIC OSS BUSLR Hours	ANT & WLI/WLIC Projected BUSLRs	Unit Resources Being Replaced	Additional BUSLRs Required for SFM 2000
1	MA	WOODS HOLE	WLB	458	1	ANT WOODS HOLE	0
1	NY	NEW YORK	WLB	1098	2	ANT NEW YORK	0
5	PA	PHILADELPHIA	WLM	166	1	ANT PHILADELPHIA	0
5	VA	PORTSMOUTH	WLB	0	0	---	0
(BUSLRs projected for: ANT Chincoteague, ANT Milford Haven, and ANT Kennebec)							
7	FL	MAYPORT	WLB	44	0	---	0
(BUSLRs projected for: Charleston, SC (Rambler), and Brunswick, GA (Smilax))							
8	LA	NEW ORLEANS	WLM	540	1	WEDGE/PAMLICO	1
9	MN	DULUTH	WLB	0	0	---	2
17	AK	KODIAK	WLB	0	0	---	0
TOTAL BUSLRs DUE TO SFM 2000 IMPACTS							3

Duluth

Figure 1 shows Lake Superior and the WLB Sundew's ATON. The nearest projected BUSLR to Duluth would be at Sault Ste. Marie (MI), a location too far to cover the Duluth area. Of the Sundew's 242 buoys, ANT Duluth is listed in ATONIS as having secondary responsibility for 172, and ANT Portage (Hancock, MI) for 53.

Neither ANT Duluth or ANT Portage is projected to need a BUSLR to service the ATON currently assigned to them. ANT Duluth is the primary unit for 55 ATON, of which three are buoys, and ANT Portage is the primary unit for 57 ATON, of which none are buoys. ANT Duluth is presently assigned 1 TANB, and ANT Portage has one ANLB.

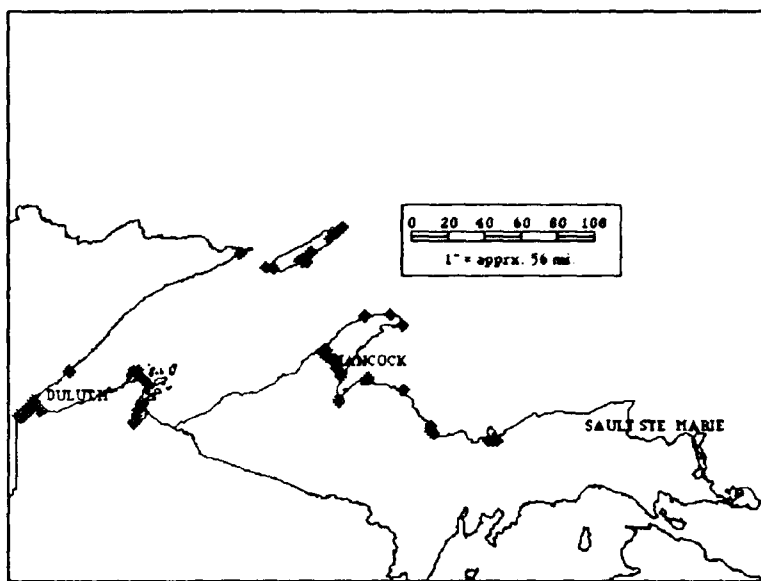


FIGURE 1. SUNDEW'S LAKE SUPERIOR ATON

The SFM 2000 projected a replacement fleet of two WLBRs (home ported in Charlevoix and Port Huron, MI) for the current fleet of three WLBRs employed in the Ninth District, without off-loading any WLB buoys onto BUSLRs. However, 171 of the Sundew's buoys are located within 100 miles of Duluth, and 129 of those could be serviced by a BUSLR. The other 141 of the Sundew's buoys are within 100 miles of Hancock, and 43 of those could be serviced by a BUSLR. Two BUSLRs, one at Duluth and one at Portage, would provide added secondary response capability on Lake Superior and could be assigned primary responsibility for those buoys capable of being serviced by BUSLRs. Off-loading buoys onto BUSLRs would not alter SFM 2000's projection of two WLBRs for the Ninth District, but would provide resources necessary to maintain adequate discrepancy response when there are no buoy tenders present on Lake Superior.

New Orleans

Forty-nine of the buoys currently worked by the WLM White Holly in the Mississippi River were allocated by SFM 2000 to a BUSLR. The DSS projected that a New Orleans BUSLR would require 290 hours to service the 49 buoys, 44 of which are seasonal aids and therefore were visited twice (the associated DSS report is contained in Appendix H). In actual operations, due to changes in the river's water levels, the Mississippi River buoys are visited more frequently than twice a year. Accordingly, the SFM 2000 BUSLR was considered to be fully loaded with the 49 White Holly buoys and was considered to have no excess capacity with which to absorb any of the buoys currently worked by the two WLICs. Two BUSLRs are

therefore proposed for New Orleans, one to handle the buoys off-loaded from the White Holly by SFM 2000, and one to work the buoys currently assigned to the two WLICs.

CONCLUSION

This analysis concludes that the Coast Guard's BUSLR requirements in support of the Aids to Navigation mission are as follows:

Projected BUSLRs for ANTs	24
Projected BUSLRs for WLIs	7
Projected BUSLRs for WLICs	10
Projected BUSLRs for SFM 2000 Back-Fill	3
TOTAL BUSLR REQUIREMENT	44

RECOMMENDATION

This analysis has addressed the three areas being considered for BUSLR employment: the buoy work of Aids to Navigation Teams; the buoy work of WLIs and WLICs; and the assurance of adequate secondary response capabilities for the current WLM and WLB home ports proposed for elimination by the SFM 2000 Project.

The Aids to Navigation Service Force Mix Decision Support System was used as the basis for the BUSLR projections produced by this study. The DSS was previously developed in support of the SFM 2000 Project, but was designed for use in modeling the buoy servicing operations of all tenders and boats. The DSS provides decision-makers with analytical resources capable of generating information needed to support fleet size determinations. However, the generated information must be properly applied and assessed in order for the results to be of value to the decision-makers.

Accordingly, this study recommends that the results of this analysis be periodically revisited as the first BUSLRs are deployed and performance data is compiled. As new technology is applied to buoy tending operations, better data will become available with which to project future requirements. The collection of complete and accurate operational data is essential to the successful application of the DSS.

In addition to new technology, two factors still need to be considered when applying the conclusion of this analysis: future assignment of buoys worked by WLIs and WLICs that are beyond the lift capabilities of BUSLRs; and the results of the follow-on WLIC mission analysis and fleet-sizing study. Both factors may contribute to a lowering of the projected number of BUSLRs.

APPENDIX A.
BUSLR PARAMETERS AND SERVICE TIMES

APPENDIX A. **BUSLR PARAMETERS AND SERVICE TIMES**

BUSLR PARAMETERS

Average transit speed:	8 knots
Maximum cruise length:	48 hours
Work day:	6 AM to 4 PM
Buoy deck space:	225 ft ²
Prep/deprep time:	15 minutes

ANT/BUSLR SERVICE TIMES

ANT servicing times were taken from a recent ANT staffing standards study performed by the First District. The D1 times were used for the modeling of the current BUs and BUSLRs and for the BUSLR. The times are as follows:

	Service Order	Service Type *	Exposed Time	Non Exp. Time	Weighted Time
	-----	-----	-----	-----	-----
LBs	A1	I	1.15	1.15	1.15
	A2	IM	1.75	1.75	1.75
	A3	IMC	1.75	1.75	1.75
	A4	IC	1.15	1.15	1.15
	A5	MR	1.75	1.75	1.75
	A6	R	1.75	1.75	1.75
ULBs	B1	I	0.75	0.75	0.75
	B2	IM	1.30	1.30	1.30
	B3	MR	1.30	1.30	1.30
	B4	R	1.30	1.30	1.30
Seasonals	C1	Sp	0.50	0.50	0.50
	C2	Fa	0.50	0.50	0.50
	C3	Sp	0.50	0.50	0.50
	C4	Fa	0.50	0.50	0.50

* I=Aid Inspection, M=Mooring Check, C=Battery Recharge,
R=Aid Relief

APPENDIX B. DSS REPORTS FOR ANT BUSLRs.

15:23:43
Monday 5/10/1993

ATON SERVICE FORCE MIX DSS

ANT_SWHB.REP

VESSEL SUMMARY REPORT

Platform Characteristics

- ANT ANT SW HARBOR
- Homeport SOUTHWEST HARBOR, ME
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Nav aids assigned	= 260	(15 Seasonal)
Total Nav aids serviced	= 255	(15 Seasonal)
Total trips	= 22	
Underway days	= 41	
Deck Space Available	= 4950	
Deck Space Used	= 2767.65	(55.9% utilization)
Avg buoys / trip	= 12.3	
Avg underway days / trip	= 1.9	
Total transit time	= 163:35	
Total service time	= 275:30	
Total idle time (not added)	= 245:19	
Total time		= 439:05
Total short transits	= 186	
Total length of short trips	= 12:08	
Additional prep/deprep time		= 34:22
Avg service time / nav aid	= 1:01	
Avg transit time / nav aid	= 0:44	
Avg total time / nav aid	= 1:45	
Total discrepancies	= 0	
Computed discrepancy hours		= 0:00
Additional Structure Visits	= 0	
Additional Structure hours		= 0:00
Total weather hours (not added)		= 0:00
Same time servicing (subtract)		= 0:00
Total ATON hours used		= 473:27
Historical ATON hours used		= 726:00

18:53:16

Thursday 5/13/1993

ATON SERVICE FORCE MIX DSS

ANT_SPOR.REP

VESSEL SUMMARY REPORT

=====

Platform Characteristics

- ANT ANT S PORTLAND
- Homeport SOUTH PORTLAND, ME
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
- (Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Nav aids assigned	= 300	(26 Seasonal)	
Total Nav aids serviced	= 299	(26 Seasonal)	(26 Seasonal)
Total trips	= 29		
Underway days	= 55		
Deck Space Available	= 6525		
Deck Space Used	= 2575.8	(39.5% utilization)	
Avg buoys / trip	= 11.2		
Avg underway days / trip	= 1.9		
Total transit time	= 288:16		
Total service time	= 315:12		
Total idle time (not added)	= 341:16		
Total time		= 603:28	

Total short transits	= 225		
Total length of short trips	= 13:53		
Additional prep/deprep time		= 42:22	

Avg service time / nav aid	= 0:58		
Avg transit time / nav aid	= 1:01		
Avg total time / nav aid	= 1:59		
Total discrepancies	= 0		
Computed discrepancy hours		= 0:00	

Additional Structure Visits	= 0		
Additional Structure hours		= 0:00	

Total weather hours (not added)		= 0:00	

Same time servicing (subtract)		= 0:00	

Total ATON hours used		= 645:50	300
		=====	704
Historical ATON hours used		= 719:00	
		=====	

17:44:51

Monday 5/10/1993

ATON SERVICE FORCE MIX DSS

ANT_BOST.REP

VESSEL SUMMARY REPORT

Platform Characteristics

- ANT ANT BOSTON
- Homeport BOSTON, MA
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Nav aids assigned	= 376	(67 Seasonal)
Total Nav aids serviced	= 372	(65 Seasonal)
Total trips	= 32	
Underway days	= 65	
Deck Space Available	= 7200	
Deck Space Used	= 5174.02	(71.9% utilization)
Avg buoys / trip	= 13.7	
Avg underway days / trip	= 2.0	
Total transit time	= 295:04	
Total service time	= 386:45	
Total idle time (not added)	= 381:36	
Total time		= 681:49
Total short transits	= 350	
Total length of short trips	= 14:09	
Additional prep/deprep time		= 73:21
Avg service time / nav aid	= 0:53	
Avg transit time / nav aid	= 0:51	
Avg total time / nav aid	= 1:44	
Total discrepancies	= 0	
Computed discrepancy hours		= 0:00
Additional Structure Visits	= 0	
Additional Structure hours		= 0:00
Total weather hours (not added)		= 0:00
Same time servicing (subtract)		= 0:00

Total ATON hours used = 755:09
=====

Historical ATON hours used = 899:00
=====

11:55:54

Tuesday 5/11/1993

ATON SERVICE FORCE MIX DSS

ANT_WOOD.REP

VESSEL SUMMARY REPORT

=====

Platform Characteristics

- ANT ANT WOODS HOLE
- Homeport WOODS HOLE, MA
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Nav aids assigned	= 252	(13 Seasonal)
Total Nav aids serviced	= 251	(13 Seasonal)
Total trips	= 19	
Underway days	= 32	
Deck Space Available	= 4275	
Deck Space Used	= 2790.66	(65.3% utilization)
Avg buoys / trip	= 13.9	
Avg underway days / trip	= 1.7	
Total transit time	= 102:55	
Total service time	= 174:45	
Total idle time (not added)	= 171:58	
Total time		= 277:40

Total short transits	= 207	
Total length of short trips	= 9:10	
Additional prep/deprep time		= 42:35

Avg service time / nav aid	= 0:40	
Avg transit time / nav aid	= 0:33	
Avg total time / nav aid	= 1:13	
Total discrepancies	= 0	
Computed discrepancy hours		= 0:00

Additional Structure Visits	= 0	
Additional Structure hours		= 0:00

Total weather hours (not added)	= 0:00	

Same time servicing (subtract)	= 0:00	

Total ATON hours used = 320:15
=====

Historical ATON hours used = 420:00
=====

12:10:18
Tuesday 5/11/1993

ATON SERVICE FORCE MIX DSS

ANT_BRIS.REP

VESSEL SUMMARY REPORT

=====

Platform Characteristics

- ANT ANT BRISTOL
- Homeport BRISTOL, RI
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
- (Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Navaids assigned	= 230	(2 Seasonal)
Total Navaids serviced	= 229	(2 Seasonal)
Total trips	= 14	
Underway days	= 25	
Deck Space Available	= 3150	
Deck Space Used	= 1314.06	(41.7% utilization)
Avg buoys / trip	= 16.5	
Avg underway days / trip	= 1.8	
Total transit time	= 59:30	
Total service time	= 148:45	
Total idle time (not added)	= 146:17	
Total time		= 208:15

Total short transits	= 188	
Total length of short trips	= 8:43	
Additional prep/deprep time		= 38:17

Avg service time / navaid	= 0:39	
Avg transit time / navaid	= 0:25	
Avg total time / navaid	= 1:04	
Total discrepancies	= 0	
Computed discrepancy hours		= 0:00

Additional Structure Visits	= 0	
Additional Structure hours		= 0:00

Total weather hours (not added)		= 0:00

Same time servicing (subtract)		= 0:00

Total ATON hours used	= 246:32	=====
Historical ATON hours used	= 336:00	=====

12:21:0

Tuesday 5/11/1993

ATON SERVICE FORCE MIX DSS

ANT_LISD.REP

VESSEL SUMMARY REPORT

=====

Platform Characteristics

- ANT ANT LIS
- Homeport NEW HAVEN, CT
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Nav aids assigned	= 492	(80 Seasonal)
Total Nav aids serviced	= 491	(80 Seasonal)
Total trips	= 43	
Underway days	= 78	
Deck Space Available	= 9675	
Deck Space Used	= 7405.73	(76.5% utilization)
Avg buoys / trip	= 13.3	
Avg underway days / trip	= 1.8	
Total transit time	= 450:48	
Total service time	= 378:45	
Total idle time (not added)	= 459:07	
Total time	= 829:33	-----
Total short transits	= 442	
Total length of short trips	= 22:18	
Additional prep/deprep time	= 88:12	-----
Avg service time / nav aid	= 0:40	
Avg transit time / nav aid	= 0:57	
Avg total time / nav aid	= 1:36	
Total discrepancies	= 0	
Computed discrepancy hours	= 0:00	-----
Additional Structure Visits	= 0	
Additional Structure hours	= 0:00	-----
Total weather hours (not added)	= 0:00	-----
Same time servicing (subtract)	= 0:00	-----

Total ATON hours used = 917:45
=====

Historical ATON hours used = 559:00
=====

0:7:27
Tuesday 5/11/1993

ATON SERVICE FORCE MIX DSS

ANT_MORI.REP

VESSEL SUMMARY REPORT

=====

Platform Characteristics

- ANT ANT MORICHES
- Homeport EAST MORICHES, NY
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Nav aids assigned	= 284	(53 Seasonal)	
Total Nav aids serviced	= 283	(53 Seasonal)	
Total trips	= 37		
Underway days	= 63		
Deck Space Available	= 8325		
Deck Space Used	= 6135.96	(73.7% utilization)	
Avg buoys / trip	= 9.1		
Avg underway days / trip	= 1.7		
Total transit time	= 284:26		
Total service time	= 315:06		
Total idle time (not added)	= 290:19		
Total time		= 599:32	-----
Total short transits	= 260		
Total length of short trips	= 19:25		
Additional prep/deprep time		= 45:35	-----
Avg service time / nav aid	= 0:56		
Avg transit time / nav aid	= 0:59		
Avg total time / nav aid	= 1:55		
Total discrepancies	= 0		
Computed discrepancy hours		= 0:00	-----
Additional Structure Visits	= 0		
Additional Structure hours		= 0:00	-----
Total weather hours (not added)		= 0:00	-----
Same time servicing (subtract)		= 0:00	-----

Total ATON hours used = 645:07
=====

Historical ATON hours used = 585:00
=====

15:48:11
Monday 5/10/1993

ATON SERVICE FORCE MIX DSS

ANT_NY.REP

VESSEL SUMMARY REPORT

Platform Characteristics

- ANT ANT NEW YORK
- Homeport NEW YORK, NY
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Navais assigned	= 377	(79 Seasonal)
Total Navais serviced	= 376	(79 Seasonal)
Total trips	= 49	
Underway days	= 74	
Deck Space Available	= 11025	
Deck Space Used	= 9158.49	(83.1% utilization)
Avg buoys / trip	= 9.3	
Avg underway days / trip	= 1.5	
Total transit time	= 258:05	
Total service time	= 433:12	
Total idle time (not added)	= 325:45	
Total time		= 691:17
Total short transits	= 373	
Total length of short trips	= 16:53	
Additional prep/deprep time		= 76:22
Avg service time / navaid	= 0:57	
Avg transit time / navaid	= 0:44	
Avg total time / navaid	= 1:41	
Total discrepancies	= 0	
Computed discrepancy hours		= 0:00
Additional Structure Visits	= 0	
Additional Structure hours		= 0:00
Total weather hours (not added)		= 0:00
Same time servicing (subtract)		= 0:00
Total ATON hours used		= 767:40
Historical ATON hours used		= 1082:00

18:56:37

Monday 5/10/1993

ATON SERVICE FORCE MIX DSS

ANT_SAUG.REP

VESSEL SUMMARY REPORT

Platform Characteristics

- ANT ANT SAUGERTIES
- Homeport SAUGERTIES, NY
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Nav aids assigned	=	87	(35 Seasonal)
Total Nav aids serviced	=	86	(35 Seasonal)
Total trips	=	33	
Underway days	=	38	
Deck Space Available	=	7425	
Deck Space Used	=	5886.99	(79.3% utilization)
Avg buoys / trip	=	3.7	
Avg underway days / trip	=	1.2	
Total transit time	=	216:45	
Total service time	=	88:06	
Total idle time (not added)	=	65:22	
Total time			= 304:51
Total short transits	=	65	
Total length of short trips	=	6:40	
Additional prep/deprep time	=		9:35
Avg service time / nav aid	=	0:44	
Avg transit time / nav aid	=	1:52	
Avg total time / nav aid	=	2:36	
Total discrepancies	=	0	
Computed discrepancy hours	=		0:00
Additional Structure Visits	=	0	
Additional Structure hours	=		0:00
Total weather hours (not added)	=		0:00
Same time servicing (subtract)	=		0:00
Total ATON hours used	=	314:26	=====
Historical ATON hours used	=	417:00	=====

15:6:54

Tuesday 5/11/1993

ATON SERVICE FORCE MIX DSS

STA_BURL.REP

VESSEL SUMMARY REPORT

=====

Platform Characteristics

- ANT STA BURLINGTON
- Homeport BURLINGTON BAY JTY WARNING BY
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Nav aids assigned	=	98	(21 Seasonal)
Total Nav aids serviced	=	97	(21 Seasonal)
Total trips	=	12	
Underway days	=	21	
Deck Space Available	=	2700	
Deck Space Used	=	2003.37	(74.2% utilization)
Avg buoys / trip	=	9.8	
Avg underway days / trip	=	1.8	
Total transit time	=	88:38	
Total service time	=	117:45	
Total idle time (not added)	=	115:42	
Total time	=	206:23	

Total short transits	=	57	
Total length of short trips	=	6:20	
Additional prep/deprep time	=	7:55	

Avg service time / nav aid	=	1:00	
Avg transit time / nav aid	=	0:49	
Avg total time / nav aid	=	1:49	
Total discrepancies	=	0	
Computed discrepancy hours	=	0:00	

Additional Structure Visits	=	0	
Additional Structure hours	=	0:00	

Total weather hours (not added)	=	0:00	

Same time servicing (subtract)	=	0:00	

Total ATON hours used = 214:18
=====

Historical ATON hours used = 189:00
=====

18:57:56
Monday 5/10/1993

ATON SERVICE FORCE MIX DSS

ANT_CMAY.REP

VESSEL SUMMARY REPORT

Platform Characteristics

- ANT ANT CAPE MAY
- Homeport CAPE MAY, NJ
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Navaid's assigned	= 467	(208 Seasonal)
Total Navaid's serviced	= 441	(189 Seasonal)
Total trips	= 74	
Underway days	= 126	
Deck Space Available	= 16650	
Deck Space Used	= 15049.8	(90.4% utilization)
Avg buoys / trip	= 8.5	
Avg underway days / trip	= 1.7	
Total transit time	= 830:50	
Total service time	= 502:21	
Total idle time (not added)	= 610:50	
Total time		= 1333:11
Total short transits	= 484	
Total length of short trips	= 21:49	
Additional prep/deprep time		= 99:11
Avg service time / navaid	= 0:48	
Avg transit time / navaid	= 1:29	
Avg total time / navaid	= 2:16	
Total discrepancies	= 0	
Computed discrepancy hours		= 0:00
Additional Structure Visits	= 0	
Additional Structure hours		= 0:00
Total weather hours (not added)		= 0:00
Same time servicing (subtract)		= 0:00
Total ATON hours used		= 1432:23
Historical ATON hours used		= 1071:00

23:33:1
Monday 5/10/1993

ATON SERVICE FORCE MIX DSS

ANT_PH.REP

VESSEL SUMMARY REPORT

Platform Characteristics

- ANT ANT PHILADELPHIA
- Homeport PHILADELPHIA, PA
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Nav aids assigned	=	60	(11 Seasonal)
Total Nav aids serviced	=	58	(11 Seasonal)
Total trips	=	8	
Underway days	=	13	
Deck Space Available	=	1800	
Deck Space Used	=	1362.42	(75.7% utilization)
Avg buoys / trip	=	8.6	
Avg underway days / trip	=	1.6	
Total transit time	=	64:01	
Total service time	=	62:03	
Total idle time (not added)	=	63:18	
Total time			= 126:04
Total short transits	=	46	
Total length of short trips	=	2:40	
Additional prep/deprep time			= 8:50
Avg service time / nav aid	=	0:54	
Avg transit time / nav aid	=	1:03	
Avg total time / nav aid	=	1:57	
Total discrepancies	=	0	
Computed discrepancy hours	=	0:00	
Additional Structure Visits	=	0	
Additional Structure hours	=	0:00	
Total weather hours (not added)	=	0:00	
Same time servicing (subtract)	=	0:00	
Total ATON hours used	=	134:54	=====
Historical ATON hours used	=	372:00	=====

15:8:43

Tuesday 5/11/1993

ATON SERVICE FORCE MIX DSS

ANT_CHIN.REP

VESSEL SUMMARY REPORT

=====

Platform Characteristics

- ANT ANT CHINCOTEAGUE
- Homeport CHINCOTEAGUE, VA
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Navaid assigned	=	49	(8 Seasonal)	
Total Navaid serviced	=	48	(8 Seasonal)	
Total trips	=	7		
Underway days	=	11		
Deck Space Available	=	1575		
Deck Space Used	=	960.3	(61.0% utilization)	
Avg buoys / trip	=	8.0		
Avg underway days / trip	=	1.6		
Total transit time	=	78:16		
Total service time	=	52:00		
Total idle time (not added)	=	39:19		
Total time			=	130:16

Total short transits	=	41		
Total length of short trips	=	1:54		
Additional prep/deprep time	=			8:21

Avg service time / navaid	=	0:56		
Avg transit time / navaid	=	1:33		
Avg total time / navaid	=	2:29		
Total discrepancies	=	0		
Computed discrepancy hours	=			0:00

Additional Structure Visits	=	0		
Additional Structure hours	=			0:00

Total weather hours (not added)	=			0:00

Same time servicing (subtract)	=			0:00

Total ATON hours used				= 138:37
				=====
Historical ATON hours used				= 550:00
				=====

15:8:59

Tuesday 5/11/1993

ATON SERVICE FORCE MIX DSS

ANT_KENN.REP

VESSEL SUMMARY REPORT

=====

Platform Characteristics

- ANT ANT KENNEBEC
- Homeport PORTSMOUTH, VA
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Nav aids assigned	=	55	(9 Seasonal)
Total Nav aids serviced	=	53	(9 Seasonal)
Total trips	=	8	
Underway days	=	12	
Deck Space Available	=	1800	
Deck Space Used	=	1136.55	(63.1% utilization)
Avg buoys / trip	=	7.8	
Avg underway days / trip	=	1.5	
Total transit time	=	62:48	
Total service time	=	38:15	
Total idle time (not added)	=	50:39	
Total time			= 101:03

Total short transits	=	37	
Total length of short trips	=	2:13	
Additional prep/deprep time	=	7:02	

Avg service time / nav aid	=	0:37	
Avg transit time / nav aid	=	1:08	
Avg total time / nav aid	=	1:45	
Total discrepancies	=	0	
Computed discrepancy hours	=	0:00	

Additional Structure Visits	=	0	
Additional Structure hours	=	0:00	

Total weather hours (not added)	=	0:00	

Same time servicing (subtract)	=	0:00	

Total ATON hours used	=	108:05	
			=====
Historical ATON hours used	=	0:00	
			=====

15:9:16
Tuesday 5/11/1993

ATON SERVICE FORCE MIX DSS

ANT_MILF.REP

VESSEL SUMMARY REPORT

=====

Platform Characteristics

- ANT ANT MIL HAVEN
- Homeport HUDGINS, VA
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Navaid's assigned	=	92	(6 Seasonal)
Total Navaid's serviced	=	91	(6 Seasonal)
Total trips	=	10	
Underway days	=	21	
Deck Space Available	=	2250	
Deck Space Used	=	1211.76	(53.9% utilization)
Avg buoys / trip	=	9.7	
Avg underway days / trip	=	2.1	
Total transit time	=	155:22	
Total service time	=	69:45	
Total idle time (not added)	=	107:46	
Total time	=	225:07	-----
Total short transits	=	63	
Total length of short trips	=	5:22	
Additional prep/deprep time	=	10:23	-----
Avg service time / navaid	=	0:43	
Avg transit time / navaid	=	1:43	
Avg total time / navaid	=	2:26	
Total discrepancies	=	0	
Computed discrepancy hours	=	0:00	-----
Additional Structure Visits	=	0	
Additional Structure hours	=	0:00	-----
Total weather hours (not added)	=	0:00	-----
Same time servicing (subtract)	=	0:00	-----
Total ATON hours used	=	235:31	=====
Historical ATON hours used	=	0:00	=====

0:3:48
Tuesday 5/11/1993

ATON SERVICE FORCE MIX DSS

ANT_GHA.REP

VESSEL SUMMARY REPORT

=====

Platform Characteristics

- ANT ANT GRAND HAVEN
- Homeport GRAND HAVEN, MI
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Navaid assigned	=	90	(72 Seasonal)
Total Navaid serviced	=	89	(72 Seasonal)
Total trips	=	18	
Underway days	=	23	
Deck Space Available	=	4050	
Deck Space Used	=	3570.57	(88.2% utilization)
Avg buoys / trip	=	8.9	
Avg underway days / trip	=	1.3	
Total transit time	=	99:14	
Total service time	=	92:27	
Total idle time (not added)	=	60:38	
Total time			= 191:41

Total short transits	=	130	
Total length of short trips	=	5:33	
Additional prep/deprep time			= 26:57

Avg service time / navaid	=	0:34	
Avg transit time / navaid	=	0:47	
Avg total time / navaid	=	1:21	
Total discrepancies	=	0	
Computed discrepancy hours	=		0:00

Additional Structure Visits	=	0	
Additional Structure hours	=		0:00

Total weather hours (not added)	=		0:00

Same time servicing (subtract)	=		0:00

Total ATON hours used			= 218:38
			=====
Historical ATON hours used			= 71:00
			=====

23:33:26
Monday 5/10/1993

ATON SERVICE FORCE MIX DSS

ANT_DETR.REP

VESSEL SUMMARY REPORT

=====

Platform Characteristics

- ANT ANT DETROIT
- Homeport DETROIT, MI
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Navaid's assigned	= 224	(161 Seasonal)
Total Navaid's serviced	= 207	(146 Seasonal)
Total trips	= 74	
Underway days	= 87	
Deck Space Available	= 16650	
Deck Space Used	= 14660.2	(88.0% utilization)
Avg buoys / trip	= 4.8	
Avg underway days / trip	= 1.2	
Total transit time	= 486:29	
Total service time	= 228:09	
Total idle time (not added)	= 169:46	
Total time		= 714:38

Total short transits	= 234	
Total length of short trips	= 11:40	
Additional prep/deprep time		= 46:50

Avg service time / navaid	= 0:39	
Avg transit time / navaid	= 1:31	
Avg total time / navaid	= 2:09	
Total discrepancies	= 0	
Computed discrepancy hours		= 0:00

Additional Structure Visits	= 0	
Additional Structure hours		= 0:00

Total weather hours (not added)		= 0:00

Same time servicing (subtract)		= 0:00

Total ATON hours used	= 761:28	=====
Historical ATON hours used	= 0:00	=====

0:5:39
Tuesday 5/11/1993

ATON SERVICE FORCE MIX DSS

ANT_BUFF.REP

VESSEL SUMMARY REPORT

Platform Characteristics

- ANT ANT BUFFALO
- Homeport BUFFALO, NY
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Navaids assigned	= 88	(67 Seasonal)
Total Navaids serviced	= 87	(67 Seasonal)
Total trips	= 38	
Underway days	= 53	
Deck Space Available	= 8550	
Deck Space Used	= 6682.35	(78.2% utilization)
Avg buoys / trip	= 4.1	
Avg underway days / trip	= 1.4	
Total transit time	= 376:07	
Total service time	= 82:00	
Total idle time (not added)	= 53:42	
Total time		= 458:07
Total short transits	= 110	
Total length of short trips	= 5:47	
Additional prep/deprep time		= 21:43
Avg service time / navaid	= 0:32	
Avg transit time / navaid	= 2:35	
Avg total time / navaid	= 3:07	
Total discrepancies	= 0	
Computed discrepancy hours		= 0:00
Additional Structure Visits	= 0	
Additional Structure hours		= 0:00
Total weather hours (not added)		= 0:00
Same time servicing (subtract)		= 0:00
Total ATON hours used		= 479:51
Historical ATON hours used		= 179:00

13:23:54

Tuesday 5/18/1993

ATON SERVICE FORCE MIX DSS

ANT_SF.REP

VESSEL SUMMARY REPORT

=====

Platform Characteristics

- ANT ANT SANFRANCISCO
- Homeport SAN FRANCISCO, CA
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Navaid assigned	=	31	(4 Seasonal)	
Total Navaid serviced	=	30	(4 Seasonal)	
Total trips	=	11		
Underway days	=	28		
Deck Space Available	=	2475		
Deck Space Used	=	666.3	(26.9% utilization)	
Avg buoys / trip	=	3.1		
Avg underway days / trip	=	2.5		
Total transit time	=	374:25		
Total service time	=	31:21		
Total idle time (not added)	=	39:39		
Total time			=	405:46

Total short transits	=	16		
Total length of short trips	=	0:33		
Additional prep/deprep time			=	3:27

Avg service time / navaid	=	0:55		
Avg transit time / navaid	=	11:07		
Avg total time / navaid	=	12:02		
Total discrepancies	=	0		
Computed discrepancy hours			=	0:00

Additional Structure Visits	=	0		
Additional Structure hours			=	0:00

Total weather hours (not added)	=	0:00		

Same time servicing (subtract)	=	0:00		

Total ATON hours used			=	409:13
				=====
Historical ATON hours used			=	0:00

APPENDIX C.
WEATHER AND DISCREPANCY SCALE FACTORS

APPENDIX C.
WEATHER AND DISCREPANCY SCALE FACTORS

WLMR & WLBR Home Ports	DSS Under- way Hours	DSS Prep/ DePrep Hours	DSS Discrep- ancy Hours	DSS Weather Hours	DSS Total ATON Hours	Weather & Discrepancy Scale Factor
S. Portland WLBR	585	107	136	75	903	1.30
New London WLBR	604	64	94	64	826	1.24
Rockland, ME WLMR	489	126	99	236	950	1.54
Boston WLMR	482	105	103	262	952	1.62
Bristol WLMR	554	132	61	250	997	1.45
New York WLMR	432	154	172	79	837	1.43
D1 AVERAGE	524.33	114.67	110.83	161	910.83	1.43
Cape May WLBR	547	75	125	75	822	1.31
Baltimore WLMR	705	67	52	47	871	1.12
Portsmouth WLMR	829	48	93	37	1007	1.13
Atlantic Beach WLMR	659	51	200	101	1011	1.40
D5 AVERAGE	731.25	60.25	117.5	65	974	1.23
Miami WLBR	847	153	193	63	1256	1.26
Charleston WLMR	883	83	140	187	1293	1.34
St. Petersburg WLMR	697	67	144	8	916	1.20
D7 AVERAGE	809	101	159	86	1155	1.27
Mobile WLBR	645	80	280	80	1085	1.50
Mobile WLMR	886	75	177	79	1217	1.27
Galveston WLMR	744	66	140	177	1127	1.39
D8 AVERAGE	758.33	73.67	199	112	1143	1.37
Port Huron WLBR	795	80	14	70	959	1.10
Charlevoix WLBR	892	87	62	53	1094	1.12
D9 AVERAGE	843.5	83.5	38	61.5	1026.5	1.11
San Francisco WLBR	624	49	305	161	1139	1.69
San Pedro WLMR	596	35	103	323	1057	1.68
D11 AVERAGE	610	42	204	242	1098	1.68
Astoria WLBR	591	37	251	157	1036	1.65
Seattle WLMR	520	39	226	254	1039	1.86
D13 AVERAGE	555.5	38	238.5	205.5	1037.5	1.75
Sitka WLBR	670	62	57	142	931	1.27
Ketchikan WLMR	977	63	73	77	1190	1.14
D17 AVERAGE	823.5	62.5	65	109.5	1060.5	1.20

APPENDIX D.
WLI/WLIC PARAMETERS AND SERVICE TIMES

APPENDIX D. WLI/WLIC PARAMETERS AND SERVICE TIMES

WLI/WLIC OPERATING PARAMETERS

Buoy Tenders Table Information

Vessel Name	Target Historic Hours	Vessel Speed	Cruise Hours	Deck Space	Early Start Time	Late Start Time	Unit Type	Prep/ De-Prep or Current Time Future
126 BLUEBELL	1651	8.5	96	546	7	19	WLI (100)	0.25 C
127 BUCKTHORN	559	8.5	96	550	7	19	WLI (100)	0.25 C
128 PRIMROSE	2438	8.5	120	431	7	19	WLIC (100)	0.25 C
129 RAMBLER	1213	8.0	120	1423	7	19	WLIC (100)	0.25 C
130 SMILAX	2403	8.0	120	1423	7	19	WLIC (100)	0.25 C
131 BAYBERRY	1314	7.5	72	1118	7	19	WLI (65)	0.25 C
132 BLACKBERRY	843	7.0	72	263	7	19	WLI (65)	0.25 C
133 CHOKEBERRY	552	7.0	72	263	7	19	WLI (65)	0.25 C
134 ELDERBERRY	1203	8.0	72	268	7	19	WLI (65)	0.25 C
135 HUDSON	2124	8.0	120	1000	7	19	WLIC (160)	0.25 C
136 KENNEBEC	2337	8.0	120	1000	7	19	WLIC (160)	0.25 C
137 PAMLICO	1956	8.0	120	1000	7	19	WLIC (160)	0.25 C
138 SAGINAW	2248	8.0	120	1000	7	19	WLIC (160)	0.25 C
139 ANVIL	1512	7.0	120	950	7	19	WLIC (75)	0.25 C
140 AXE	1658	7.0	120	950	7	19	WLIC (75)	0.25 C
141 CLAMP	1328	7.0	120	950	7	19	WLIC (75)	0.25 C
142 HAMMER	1426	7.0	120	950	7	19	WLIC (75)	0.25 C
143 HATCHET	1370	7.0	120	950	7	19	WLIC (75)	0.25 C
144 MALLET	1845	7.0	120	950	7	19	WLIC (75)	0.25 C
145 SLEDGE	1858	7.0	120	950	7	19	WLIC (75)	0.25 C
146 VISE	1660	7.0	120	950	7	19	WLIC (75)	0.25 C
147 WEDGE	1083	7.0	120	950	7	19	WLIC (75)	0.25 C

WLI/WLIC SERVICE TIMES

For the modeling of the current WLI/WLIC fleet, the SFM 2000 fleet average service times for WLMs were used. Those times were:

	Service Order	Service Type	Exposed Time	Non Exp. Time	Weighted Time
LBs	A1	I	0.87	0.69	0.76
	A2	IM	1.44	1.00	1.16
	A3	IMC	2.32	1.54	1.83
	A4	IC	1.78	1.16	1.39
	A5	MR	1.44	1.11	1.25
ULBs	A6	R	1.04	0.80	0.92
	B1	I	0.66	0.46	0.53
	B2	IM	1.14	0.74	0.86
	B3	MR	1.10	0.71	0.86
Seasonals	B4	R	0.83	0.49	0.61
	C1	Sp	0.67	0.52	0.56
	C2	Fa	0.44	0.33	0.36
	C3	Sp	0.97	0.91	0.92
	C4	Fa	0.77	0.74	0.74

APPENDIX E.
WLI/WLIC BUOYS GREATER THAN 4,500 POUNDS

APPENDIX E.
WLI/WLIC BUOYS GREATER THAN 4,500 POUNDS

District	Unit Name	Buoys > 4500 Lbs.
-----	-----	-----
5	PRIMROSE	15
5	SLEDGE	5
5	Total	20
7	HUDSON	9
7	RAMBLER	16
7	SMILAX	47
7	WISE	2
7	Total	74
8	ANVIL	1
8	AXE	4
8	CLAMP	24
8	HATCHET	4
8	PAMLICO	1
8	SAGINAW	14
8	WEDGE	3
8	Total	51
9	BUCKTHORN	11
9	Total	11
13	BAYBERRY	2
13	BLUEBELL	42
13	Total	44
	Report Totals	200

APPENDIX F. DSS REPORTS FOR WLIs AND WLICs

10:18:58

Saturday 4/24/1993

ATON SERVICE FORCE MIX DSS

SLEDGE.REP

VESSEL SUMMARY REPORT

=====

Platform Characteristics

- WLIC SLEDGE
- Homeport BALTIMORE, MD
- 7 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- 950 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Nav aids assigned	= 133	(44 Seasonal)
Total Nav aids serviced	= 130	(44 Seasonal)
Total trips	= 9	
Underway days	= 18	
Deck Space Available	= 8550	
Deck Space Used	= 7156.77	(83.7% utilization)
Avg buoys / trip	= 19.3	
Avg underway days / trip	= 2.0	
Total transit time	= 116:14	
Total service time	= 90:54	
Total idle time (not added)	= 102:11	
Total time	= 207:08	-----
Total short transits	= 93	
Total length of short trips	= 9:32	
Additional prep/deprep time	= 13:43	-----
Avg service time / nav aid	= 0:31	
Avg transit time / nav aid	= 0:45	
Avg total time / nav aid	= 1:16	
Total discrepancies	= 0	
Computed discrepancy hours	= 0:00	-----
Additional Structure Visits	= 0	
Additional Structure hours	= 0:00	-----
Total weather hours (not added)	= 0:00	-----
Same time servicing (subtract)	= 0:00	-----
Total ATON hours used	= 220:51	=====
Historical ATON hours used	= 1858:00	=====

9:36:55

Sunday 4/25/1993

ATON SERVICE FORCE MIX DSS

CHOKEBER.REP

VESSEL SUMMARY REPORT

=====

Platform Characteristics

- WLI CHOKEBERRY
- Homeport CRISFIELD, MD
- 7 knot average transit speed
- 72 hour maximum cruise length
- work day is 7:00 to 19:00
- 263 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Nav aids assigned	=	32	(3 Seasonal)	
Total Nav aids serviced	=	29	(3 Seasonal)	
Total trips	=	3		
Underway days	=	6		
Deck Space Available	=	789		
Deck Space Used	=	438.27	(55.5% utilization)	
Avg buoys / trip	=	10.7		
Avg underway days / trip	=	2.0		
Total transit time	=	51:55		
Total service time	=	17:49		
Total idle time (not added)	=	32:38		
Total time			=	69:44

Total short transits	=	14		
Total length of short trips	=	1:06		
Additional prep/deprep time	=			2:24

Avg service time / nav aid	=	0:33		
Avg transit time / nav aid	=	1:42		
Avg total time / nav aid	=	2:15		
Total discrepancies	=	0		
Computed discrepancy hours	=			0:00

Additional Structure Visits	=	0		
Additional Structure hours	=			0:00

Total weather hours (not added)	=			0:00

Same time servicing (subtract)	=			0:00

Total ATON hours used				= 72:08
				=====
Historical ATON hours used				= 552:00
				=====

10:16:46

Saturday 4/24/1993

ATON SERVICE FORCE MIX DSS

PRIMROSE.REP

VESSEL SUMMARY REPORT

Platform Characteristics

- WLIC PRIMROSE
- Homeport ATLANTIC BEACH, NC
- 8.5 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- 431 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Navaid assigned	=	11	(0 Seasonal)
Total Navaid serviced	=	10	(0 Seasonal)
Total trips	=	1	
Underway days	=	3	
Deck Space Available	=	431	
Deck Space Used	=	87.75	(20.4% utilization)
Avg buoys / trip	=	10.0	
Avg underway days / trip	=	3.0	
Total transit time	=	32:21	
Total service time	=	13:06	
Total idle time (not added)	=	18:19	
Total time	=	45:27	

Total short transits	=	4	
Total length of short trips	=	0:14	
Additional prep/deprep time	=	0:46	

Avg service time / navaid	=	1:19	
Avg transit time / navaid	=	3:19	
Avg total time / navaid	=	4:37	
Total discrepancies	=	0	
Computed discrepancy hours	=	0:00	

Additional Structure Visits	=	0	
Additional Structure hours	=	0:00	

Total weather hours (not added)	=	0:00	

Same time servicing (subtract)	=	0:00	

Total ATON hours used			= 46:13
			=====
Historical ATON hours used			= 2438:00
			=====

12:39:25

Sunday 4/25/1993

ATON SERVICE FORCE MIX DSS

BLACKBER.REP

VESSEL SUMMARY REPORT

Platform Characteristics

- WLI BLACKBERRY
- Homeport SOUTHPORT, NC
- 7 knot average transit speed
- 72 hour maximum cruise length
- work day is 7:00 to 19:00
- 263 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Navaids assigned	= 108	(0 Seasonal)
Total Navaids serviced	= 107	(0 Seasonal)
Total trips	= 9	
Underway days	= 20	
Deck Space Available	= 2367	
Deck Space Used	= 2200.56	(93.0% utilization)
Avg buoys / trip	= 11.9	
Avg underway days / trip	= 2.2	
Total transit time	= 130:14	
Total service time	= 85:38	
Total idle time (not added)	= 115:33	
Total time		= 215:52
Total short transits	= 80	
Total length of short trips	= 2:35	
Additional prep/deprep time		= 17:25
Avg service time / navaid	= 0:48	
Avg transit time / navaid	= 1:23	
Avg total time / navaid	= 2:11	
Total discrepancies	= 0	
Computed discrepancy hours		= 0:00
Additional Structure Visits	= 0	
Additional Structure hours		= 0:00
Total weather hours (not added)		= 0:00
Same time servicing (subtract)		= 0:00

Total ATON hours used = 233:17
=====

Historical ATON hours used = 843:00

10:17:5

Saturday 4/24/1993

ATON SERVICE FORCE MIX DSS

RAMBLER.REP

VESSEL SUMMARY REPORT

Platform Characteristics

- WLIC RAMBLER
- Homeport CHARLESTON, SC
- 8 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- 1423 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Navaids assigned	=	35	(0 Seasonal)	
Total Navaids serviced	=	33	(0 Seasonal)	
Total trips	=	1		
Underway days	=	5		
Deck Space Available	=	1423		
Deck Space Used	=	941.1	(66.1% utilization)	
Avg buoys / trip	=	33.0		
Avg underway days / trip	=	5.0		
Total transit time	=	35:24		
Total service time	=	21:35		
Total idle time (not added)	=	40:30		
Total time			=	56:59

Total short transits	=	15		
Total length of short trips	=	1:23		
Additional prep/deprep time	=	2:22		

Avg service time / navaid	=	0:39		
Avg transit time / navaid	=	1:09		
Avg total time / navaid	=	1:48		
Total discrepancies	=	0		
Computed discrepancy hours	=	0:00		

Additional Structure Visits	=	0		
Additional Structure hours	=	0:00		

Total weather hours (not added)	=	0:00		

Same time servicing (subtract)	=	0:00		

Total ATON hours used				= 59:21
				=====
Historical ATON hours used				= 1213:00
				=====

10:16:54

Saturday 4/24/1993

ATON SERVICE FORCE MIX DSS

SMILAX.REP

VESSEL SUMMARY REPORT

Platform Characteristics

- WLIC SMILAX
- Homeport BRUNSWICK, GA
- 8 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- 1423 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Nav aids assigned	=	24	(0 Seasonal)
Total Nav aids serviced	=	22	(0 Seasonal)
Total trips	=	1	
Underway days	=	5	
Deck Space Available	=	1423	
Deck Space Used	=	513	(36.1% utilization)
Avg buoys / trip	=	22.0	
Avg underway days / trip	=	5.0	
Total transit time	=	48:21	
Total service time	=	16:13	
Total idle time (not added)	=	36:07	
Total time	=	64:35	
Total short transits	=	6	
Total length of short trips	=	0:34	
Additional prep/deprep time	=	0:56	
Avg service time / nav aid	=	0:44	
Avg transit time / nav aid	=	2:14	
Avg total time / nav aid	=	2:59	
Total discrepancies	=	0	
Computed discrepancy hours	=	0:00	
Additional Structure Visits	=	0	
Additional Structure hours	=	0:00	
Total weather hours (not added)	=	0:00	
Same time servicing (subtract)	=	0:00	
Total ATON hours used	=	65:31	=====
Historical ATON hours used	=	2403:00	=====

10:21:40
Saturday 4/24/1993

ATON SERVICE FORCE MIX DSS

HAMMER.REP

VESSEL SUMMARY REPORT

=====

Platform Characteristics

- WLIC HAMMER
- Homeport MAYPORT, FL
- 7 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- 950 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Navaid assigned	=	9	(0 Seasonal)	
Total Navaid serviced	=	8	(0 Seasonal)	
Total trips	=	1		
Underway days	=	2		
Deck Space Available	=	950		
Deck Space Used	=	59.7	(6.3% utilization)	
Avg buoys / trip	=	8.0		
Avg underway days / trip	=	2.0		
Total transit time	=	29:23		
Total service time	=	5:05		
Total idle time (not added)	=	4:52		
Total time			=	34:28

Total short transits	=	3		
Total length of short trips	=	0:08		
Additional prep/deprep time	=			0:37

Avg service time / navaid	=	0:38		
Avg transit time / navaid	=	3:45		
Avg total time / navaid	=	4:23		
Total discrepancies	=	0		
Computed discrepancy hours	=			0:00

Additional Structure Visits	=	0		
Additional Structure hours	=			0:00

Total weather hours (not added)	=			0:00

Same time servicing (subtract)	=			0:00

Total ATON hours used	=			35:05
				=====
Historical ATON hours used	=			1426:00
				=====

10:17:20

Saturday 4/24/1993

ATON SERVICE FORCE MIX DSS

HUDSON.REP

VESSEL SUMMARY REPORT

Platform Characteristics

- WLIC HUDSON
- Homeport MIAMI, FL
- 8 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- 1000 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Navaids assigned	=	27	(0 Seasonal)
Total Navaids serviced	=	26	(0 Seasonal)
Total trips	=	1	
Underway days	=	4	
Deck Space Available	=	1000	
Deck Space Used	=	347.4	(34.7% utilization)
Avg buoys / trip	=	26.0	
Avg underway days / trip	=	4.0	
Total transit time	=	28:14	
Total service time	=	17:44	
Total idle time (not added)	=	20:40	
Total time			= 45:58
Total short transits	=	20	
Total length of short trips	=	1:18	
Additional prep/deprep time	=	3:42	
Avg service time / navaid	=	0:41	
Avg transit time / navaid	=	1:14	
Avg total time / navaid	=	1:55	
Total discrepancies	=	0	
Computed discrepancy hours	=	0:00	
Additional Structure Visits	=	0	
Additional Structure hours	=	0:00	
Total weather hours (not added)	=	0:00	
Same time servicing (subtract)	=	0:00	
Total ATON hours used	=	49:40	=====
Historical ATON hours used	=	2124:00	=====

10:21:48

Saturday 4/24/1993

ATON SERVICE FORCE MIX DSS

WISE.REP

VESSEL SUMMARY REPORT

Platform Characteristics

- WLIC WISE
- Homeport ST PETERSBURG, FL
- 7 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- 950 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Navaids assigned	=	4	(0 Seasonal)	
Total Navaids serviced	=	3	(0 Seasonal)	
Total trips	=	1		
Underway days	=	2		
Deck Space Available	=	950		
Deck Space Used	=	33.6	(3.5% utilization)	
Avg buoys / trip	=	3.0		
Avg underway days / trip	=	2.0		
Total transit time	=	25:08		
Total service time	=	1:48		
Total idle time (not added)	=	11:31		
Total time			=	26:56

Total short transits	=	1		
Total length of short trips	=	0:14		
Additional prep/deprep time	=			0:01

Avg service time / navaid	=	0:36		
Avg transit time / navaid	=	8:23		
Avg total time / navaid	=	8:59		
Total discrepancies	=	0		
Computed discrepancy hours	=			0:00

Additional Structure Visits	=	0		
Additional Structure hours	=			0:00

Total weather hours (not added)	=			0:00

Same time servicing (subtract)	=			0:00

Total ATON hours used				= 26:57
				=====
Historical ATON hours used				= 1660:00
				=====

10:47:27

Saturday 4/24/1993

ATON SERVICE FORCE MIX DSS

AXE.REP

VESSEL SUMMARY REPORT

=====

Platform Characteristics

- WLIC AXE
- Homeport MOBILE, AL
- 7 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- 950 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Nav aids assigned	= 318	(0 Seasonal)
Total Nav aids serviced	= 317	(0 Seasonal)
Total trips	= 9	
Underway days	= 46	
Deck Space Available	= 8550	
Deck Space Used	= 4474.03	(52.3% utilization)
Avg buoys / trip	= 35.2	
Avg underway days / trip	= 5.1	
Total transit time	= 418:23	
Total service time	= 255:42	
Total idle time (not added)	= 245:30	
Total time		= 674:05

Total short transits	= 284	
Total length of short trips	= 13:23	
Additional prep/deprep time		= 57:37

Avg service time / nav aid	= 0:48	
Avg transit time / nav aid	= 1:30	
Avg total time / nav aid	= 2:18	
Total discrepancies	= 0	
Computed discrepancy hours		= 0:00

Additional Structure Visits	= 0	
Additional Structure hours		= 0:00

Total weather hours (not added)		= 0:00

Same time servicing (subtract)		= 0:00

Total ATON hours used	= 731:41	=====
Historical ATON hours used	= 1658:00	=====

10:17:33

Saturday 4/24/1993

ATON SERVICE FORCE MIX DSS

SAGINAW.REP

VESSEL SUMMARY REPORT

Platform Characteristics

- WLIC SAGINAW
- Homeport MOBILE, AL
- 8 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- 1000 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Nav aids assigned	=	57	(0 Seasonal)
Total Nav aids serviced	=	56	(0 Seasonal)
Total trips	=	2	
Underway days	=	6	
Deck Space Available	=	2000	
Deck Space Used	=	853.95	(42.7% utilization)
Avg buoys / trip	=	28.0	
Avg underway days / trip	=	3.0	
Total transit time	=	29:34	
Total service time	=	42:48	
Total idle time (not added)	=	43:54	
Total time	=	72:22	

Total short transits	=	47	
Total length of short trips	=	2:46	
Additional prep/deprep time	=	8:59	

Avg service time / nav aid	=	0:46	
Avg transit time / nav aid	=	0:41	
Avg total time / nav aid	=	1:27	
Total discrepancies	=	0	
Computed discrepancy hours	=	0:00	

Additional Structure Visits	=	0	
Additional Structure hours	=	0:00	

Total weather hours (not added)	=	0:00	

Same time servicing (subtract)	=	0:00	

Total ATON hours used = 81:21
=====

Historical ATON hours used = 2248:00
=====

9:41:24

Wednesday 4/28/1993

ATON SERVICE FORCE MIX DSS

WEDGE.REP

VESSEL SUMMARY REPORT

Platform Characteristics

- WLIC WEDGE
- Homeport NEW ORLEANS, LA
- 7 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- 950 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Navaid assigned	=	12	(0 Seasonal)
Total Navaid serviced	=	11	(0 Seasonal)
Total trips	=	7	
Underway days	=	7	

Deck Space Available	=	6650	
Deck Space Used	=	144.9	(2.2% utilization)

Avg buoys / trip	=	1.6	
Avg underway days / trip	=	1.0	

Total transit time	=	63:13	
Total service time	=	7:28	
Total idle time (not added)	=	0:00	
Total time			= 70:41

Total short transits	=	1	
Total length of short trips	=	0:03	
Additional prep/deprep time	=	0:12	

Avg service time / navaid	=	0:41	
Avg transit time / navaid	=	5:46	
Avg total time / navaid	=	6:27	

Total discrepancies	=	0	
Computed discrepancy hours	=	0:00	

Additional Structure Visits	=	0	
Additional Structure hours	=	0:00	

Total weather hours (not added)	=	0:00	
---------------------------------	---	------	--

Same time servicing (subtract)	=	0:00	
--------------------------------	---	------	--

Total ATON hours used	=	70:53	=====
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Historical ATON hours used	=	1083:00	=====
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13:55:8

Wednesday 4/28/1993

ATON SERVICE FORCE MIX DSS

PAMLICO.REP

VESSEL SUMMARY REPORT

=====

Platform Characteristics

- WLIC PAMLICO
- Homeport NEW ORLEANS, LA
- 8 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- 1000 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Nav aids assigned	=	88	(0 Seasonal)
Total Nav aids serviced	=	87	(0 Seasonal)
Total trips	=	8	
Underway days	=	16	
Deck Space Available	=	8000	
Deck Space Used	=	580.47	(7.3% utilization)
Avg buoys / trip	=	10.9	
Avg underway days / trip	=	2.0	
Total transit time	=	160:02	
Total service time	=	52:59	
Total idle time (not added)	=	75:01	
Total time			= 213:01

Total short transits	=	62	
Total length of short trips	=	3:43	
Additional prep/deprep time	=	11:47	

Avg service time / nav aid	=	0:37	
Avg transit time / nav aid	=	1:58	
Avg total time / nav aid	=	2:35	
Total discrepancies	=	0	
Computed discrepancy hours	=	0:00	

Additional Structure Visits	=	0	
Additional Structure hours	=	0:00	

Total weather hours (not added)	=	0:00	

Same time servicing (subtract)	=	0:00	

Total ATON hours used	=	224:48	=====
Historical ATON hours used	=	1956:00	=====

14:50:16

Friday 4/23/1993

ATON SERVICE FORCE MIX DSS

CLAMP.REP

VESSEL SUMMARY REPORT

Platform Characteristics

- WLIC CLAMP
- Homeport GALVESTON, TX
- 7 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- 950 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Nav aids assigned	=	121	(0 Seasonal)
Total Nav aids serviced	=	120	(0 Seasonal)
Total trips	=	2	
Underway days	=	9	
Deck Space Available	=	1900	
Deck Space Used	=	1105.83	(58.2% utilization)
Avg buoys / trip	=	60.0	
Avg underway days / trip	=	4.5	
Total transit time	=	16:27	
Total service time	=	75:08	
Total idle time (not added)	=	79:09	
Total time	=	91:35	

Total short transits	=	108	
Total length of short trips	=	6:53	
Additional prep/deprep time	=	20:07	

Avg service time / nav aid	=	0:38	
Avg transit time / nav aid	=	0:18	
Avg total time / nav aid	=	0:56	
Total discrepancies	=	0	
Computed discrepancy hours	=	0:00	

Additional Structure Visits	=	0	
Additional Structure hours	=	0:00	

Total weather hours (not added)	=	0:00	

Same time servicing (subtract)	=	0:00	

Total ATON hours used	=	111:42	=====
Historical ATON hours used	=	1328:00	=====

10:45:14
Saturday 4/24/1993

ATON SERVICE FORCE MIX DSS

HATCHET.REP

VESSEL SUMMARY REPORT

Platform Characteristics

- WLIC HATCHET
- Homeport GALVESTON, TX
- 7 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- 950 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Navaids assigned	= 129	(0 Seasonal)
Total Navaids serviced	= 128	(0 Seasonal)
Total trips	= 3	
Underway days	= 13	
Deck Space Available	= 2850	
Deck Space Used	= 619.2	(21.7% utilization)
Avg buoys / trip	= 42.7	
Avg underway days / trip	= 4.3	
Total transit time	= 84:49	
Total service time	= 76:06	
Total idle time (not added)	= 99:44	
Total time		= 160:55

Total short transits	= 105	
Total length of short trips	= 4:55	
Additional prep/deprep time		= 21:20

Avg service time / navaid	= 0:36	
Avg transit time / navaid	= 0:50	
Avg total time / navaid	= 1:25	
Total discrepancies	= 0	
Computed discrepancy hours		= 0:00

Additional Structure Visits	= 0	
Additional Structure hours		= 0:00

Total weather hours (not added)	= 0:00	

Same time servicing (subtract)	= 0:00	

Total ATON hours used = 182:15
=====

Historical ATON hours used = 1370:00
=====

10:21:56

Saturday 4/24/1993

ATON SERVICE FORCE MIX DSS

ANVIL.REP

VESSEL SUMMARY REPORT

=====

Platform Characteristics

- WLIC ANVIL
- Homeport CORPUS CHRISTI, TX
- 7 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- 950 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Nav aids assigned	= 217	(0 Seasonal)
Total Nav aids serviced	= 215	(0 Seasonal)
Total trips	= 5	
Underway days	= 23	
Deck Space Available	= 4750	
Deck Space Used	= 2058.82	(43.3% utilization)
Avg buoys / trip	= 43.0	
Avg underway days / trip	= 4.6	
Total transit time	= 76:16	
Total service time	= 180:12	
Total idle time (not added)	= 174:21	
Total time	= 256:28	-----
Total short transits	= 194	
Total length of short trips	= 9:51	
Additional prep/deprep time	= 38:39	-----
Avg service time / nav aid	= 0:50	
Avg transit time / nav aid	= 0:32	
Avg total time / nav aid	= 1:22	
Total discrepancies	= 0	
Computed discrepancy hours	= 0:00	-----
Additional Structure Visits	= 0	
Additional Structure hours	= 0:00	-----
Total weather hours (not added)	= 0:00	-----
Same time servicing (subtract)	= 0:00	-----

Total ATON hours used = 295:07
=====

Historical ATON hours used = 1512:00
=====

10:29:18

Saturday 4/24/1993

ATON SERVICE FORCE MIX DSS

MALLET.REP

VESSEL SUMMARY REPORT

=====

Platform Characteristics

- WLIC MALLET
- Homeport CORPUS CHRISTI, TX
- 7 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- 950 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Nav aids assigned	= 284	(0 Seasonal)
Total Nav aids serviced	= 282	(0 Seasonal)
Total trips	= 5	
Underway days	= 28	
Deck Space Available	= 4750	
Deck Space Used	= 2384.85	(50.2% utilization)
Avg buoys / trip	= 56.4	
Avg underway days / trip	= 5.6	
Total transit time	= 104:45	
Total service time	= 197:06	
Total idle time (not added)	= 225:56	
Total time		= 301:51

Total short transits	= 259	
Total length of short trips	= 14:28	
Additional prep/deprep time		= 50:17

Avg service time / nav aid	= 0:42	
Avg transit time / nav aid	= 0:33	
Avg total time / nav aid	= 1:15	
Total discrepancies	= 0	
Computed discrepancy hours		= 0:00

Additional Structure Visits	= 0	
Additional Structure hours		= 0:00

Total weather hours (not added)		= 0:00

Same time servicing (subtract)		= 0:00

Total ATON hours used	= 352:08	=====
Historical ATON hours used	= 1845:00	=====

9:14:52

Sunday 4/25/1993

ATON SERVICE FORCE MIX DSS

BUCKTHOR.REP

VESSEL SUMMARY REPORT

=====

Platform Characteristics

- WLI BUCKTHORN
- Homeport SAULT STE. MARIE, MI
- 8.5 knot average transit speed
- 96 hour maximum cruise length
- work day is 7:00 to 19:00
- 550 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Nav aids assigned	=	261	(182 Seasonal)
Total Nav aids serviced	=	260	(182 Seasonal)
Total trips	=	40	
Underway days	=	58	
Deck Space Available	=	22000	
Deck Space Used	=	20235.1	(92.0% utilization)
Avg buoys / trip	=	11.1	
Avg underway days / trip	=	1.4	
Total transit time	=	234:19	
Total service time	=	302:48	
Total idle time (not added)	=	193:47	
Total time	=	537:07	

Total short transits	=	345	
Total length of short trips	=	22:34	
Additional prep/deprep time	=	63:41	

Avg service time / nav aid	=	0:41	
Avg transit time / nav aid	=	0:40	
Avg total time / nav aid	=	1:22	
Total discrepancies	=	0	
Computed discrepancy hours	=	0:00	

Additional Structure Visits	=	0	
Additional Structure hours	=	0:00	

Total weather hours (not added)	=	0:00	

Same time servicing (subtract)	=	0:00	

Total ATON hours used			= 600:48
			=====
Historical ATON hours used			= 559:00
			=====

8:59:58

Sunday 4/25/1993

ATON SERVICE FORCE MIX DSS

BLUEBELL.REP

VESSEL SUMMARY REPORT

=====

Platform Characteristics

- WLI BLUEBELL
- Homeport PORTLAND, OR
- 8.5 knot average transit speed
- 96 hour maximum cruise length
- work day is 7:00 to 19:00
- 546 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Nav aids assigned	=	86	(0 Seasonal)	
Total Nav aids serviced	=	85	(0 Seasonal)	
Total trips	=	3		
Underway days	=	12		
Deck Space Available	=	1638		
Deck Space Used	=	646.785	(39.5% utilization)	
Avg buoys / trip	=	28.3		
Avg underway days / trip	=	4.0		
Total transit time	=	93:44		
Total service time	=	52:55		
Total idle time (not added)	=	86:02		
Total time			=	146:39

Total short transits	=	43		
Total length of short trips	=	2:53		
Additional prep/deprep time	=	7:52		

Avg service time / nav aid	=	0:37		
Avg transit time / nav aid	=	1:12		
Avg total time / nav aid	=	1:49		
Total discrepancies	=	0		
Computed discrepancy hours	=	0:00		

Additional Structure Visits	=	0		
Additional Structure hours	=	0:00		

Total weather hours (not added)	=	0:00		

Same time servicing (subtract)	=	0:00		

Total ATON hours used	=	154:32		
				=====
Historical ATON hours used	=	1651:00		
				=====

9:38:43

Sunday 4/25/1993

ATON SERVICE FORCE MIX DSS

BAYBERRY.REP

VESSEL SUMMARY REPORT

Platform Characteristics

- WLI BAYBERRY
- Homeport SEATTLE, WA
- 7.5 knot average transit speed
- 72 hour maximum cruise length
- work day is 7:00 to 19:00
- 1118 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Navalds assigned	=	60	(1 Seasonal)
Total Navalds serviced	=	57	(1 Seasonal)
Total trips	=	4	
Underway days	=	11	

Deck Space Available	=	4472	
Deck Space Used	=	516.15	(11.5% utilization)

Avg buoys / trip	=	14.5	
Avg underway days / trip	=	2.8	

Total transit time	=	87:00	
Total service time	=	37:33	
Total idle time (not added)	=	45:07	
Total time	=	124:33	

Total short transits	=	37	
Total length of short trips	=	1:47	
Additional prep/deprep time	=	7:28	

Avg service time / navaid	=	0:39	
Avg transit time / navaid	=	1:38	
Avg total time / navaid	=	2:17	

Total discrepancies	=	0	
Computed discrepancy hours	=	0:00	

Additional Structure Visits	=	0	
Additional Structure hours	=	0:00	

Total weather hours (not added)	=	0:00	
---------------------------------	---	------	--

Same time servicing (subtract)	=	0:00	
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Total ATON hours used	=	132:00	
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Historical ATON hours used	=	1314:00	
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9:39:12

Sunday 4/25/1993

ATON SERVICE FORCE MIX DSS

ELDERBRY.REP

VESSEL SUMMARY REPORT

Platform Characteristics

- WLI ELDERBERRY
- Homeport PETERSBURG, AK
- 8 knot average transit speed
- 72 hour maximum cruise length
- work day is 7:00 to 19:00
- 268 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Nav aids assigned	=	29	(15 Seasonal)
Total Nav aids serviced	=	27	(15 Seasonal)
Total trips	=	7	
Underway days	=	12	
Deck Space Available	=	1876	
Deck Space Used	=	1082.25	(57.7% utilization)
Avg buoys / trip	=	6.0	
Avg underway days / trip	=	1.7	
Total transit time	=	195:35	
Total service time	=	19:49	
Total idle time (not added)	=	67:35	
Total time	=	215:25	-----
Total short transits	=	30	
Total length of short trips	=	1:28	
Additional prep/deprep time	=	6:02	-----
Avg service time / nav aid	=	0:28	
Avg transit time / nav aid	=	4:48	
Avg total time / nav aid	=	5:16	
Total discrepancies	=	0	
Computed discrepancy hours	=	0:00	-----
Additional Structure Visits	=	0	
Additional Structure hours	=	0:00	-----
Total weather hours (not added)	=	0:00	-----
Same time servicing (subtract)	=	0:00	-----
Total ATON hours used	=	221:27	=====
Historical ATON hours used	=	1203:00	=====

APPENDIX G. DSS REPORTS FOR BUSLRs WORKING WLI/WLIC BUOYS

Tuesday 5/11/1993

ATON SERVICE FORCE MIX DSS

SLEDGE.REP

VESSEL SUMMARY REPORT

Platform Characteristics

- BUSLR SLEDGE
- Homeport BALTIMORE, MD
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Nav aids assigned	= 133	(44 Seasonal)
Total Nav aids serviced	= 130	(44 Seasonal)
Total trips	= 39	
Underway days	= 48	
Deck Space Available	= 8775	
Deck Space Used	= 7156.77	(81.6% utilization)
Avg buoys / trip	= 4.5	
Avg underway days / trip	= 1.2	
Total transit time	= 293:38	
Total service time	= 140:57	
Total idle time (not added)	= 118:14	
Total time		= 434:35
Total short transits	= 82	
Total length of short trips	= 7:44	
Additional prep/deprep time		= 12:46
Avg service time / nav aid	= 0:49	
Avg transit time / nav aid	= 1:46	
Avg total time / nav aid	= 2:34	
Total discrepancies	= 0	
Computed discrepancy hours		= 0:00
Additional Structure Visits	= 0	
Additional Structure hours		= 0:00
Total weather hours (not added)		= 0:00
Same time servicing (subtract)		= 0:00
Total ATON hours used		= 447:22
Historical ATON hours used		= 0:00

11:46:19

Tuesday 5/11/1993

ATON SERVICE FORCE MIX DSS

CHOKEBER.REP

VESSEL SUMMARY REPORT

=====

Platform Characteristics

- BUSLR CHOKEBERRY
- Homeport CRISFIELD, MD
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Nav aids assigned	=	32	(3 Seasonal)	
Total Nav aids serviced	=	29	(3 Seasonal)	
Total trips	=	4		
Underway days	=	8		
Deck Space Available	=	900		
Deck Space Used	=	438.27	(48.7% utilization)	
Avg buoys / trip	=	8.0		
Avg underway days / trip	=	2.0		
Total transit time	=	49:34		
Total service time	=	30:12		
Total idle time (not added)	=	46:52		
Total time			=	79:46

Total short transits	=	15		
Total length of short trips	=	1:12		
Additional prep/deprep time			=	2:33

Avg service time / nav aid	=	0:57		
Avg transit time / nav aid	=	1:38		
Avg total time / nav aid	=	2:34		
Total discrepancies	=	0		
Computed discrepancy hours			=	0:00

Additional Structure Visits	=	0		
Additional Structure hours			=	0:00

Total weather hours (not added)	=	0:00		

Same time servicing (subtract)	=	0:00		

Total ATON hours used = 82:20
=====

Historical ATON hours used = 0:00
=====

11:47:23

Tuesday 5/11/1993

ATON SERVICE FORCE MIX DSS

PRIMROSE.REP

VESSEL SUMMARY REPORT

Platform Characteristics

- BUSLR PRIMROSE
- Homeport ATLANTIC BEACH, NC
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Navaids assigned	=	11	(0 Seasonal)	
Total Navaids serviced	=	10	(0 Seasonal)	
Total trips	=	2		
Underway days	=	4		
Deck Space Available	=	450		
Deck Space Used	=	87.75	(19.5% utilization)	
Avg buoys / trip	=	5.0		
Avg underway days / trip	=	2.0		
Total transit time	=	34:36		
Total service time	=	12:30		
Total idle time (not added)	=	39:45		
Total time			=	47:06
Total short transits	=	4		
Total length of short trips	=	0:16		
Additional prep/deprep time			=	0:44
Avg service time / navaid	=	1:15		
Avg transit time / navaid	=	3:32		
Avg total time / navaid	=	4:47		
Total discrepancies	=	0		
Computed discrepancy hours			=	0:00
Additional Structure Visits	=	0		
Additional Structure hours			=	0:00
Total weather hours (not added)	=	0:00		
Same time servicing (subtract)	=	0:00		
Total ATON hours used			=	47:50
Historical ATON hours used			=	0:00

13:1:40

Thursday 5/13/1993

ATON SERVICE FORCE MIX DSS

BLACKBER.REP

VESSEL SUMMARY REPORT

Platform Characteristics

- BUSLR BLACKBERRY
- Homeport SOUTHPORT, NC
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Nav aids assigned	= 108	(0 Seasonal)
Total Nav aids serviced	= 107	(0 Seasonal)
Total trips	= 12	
Underway days	= 24	
Deck Space Available	= 2700	
Deck Space Used	= 2200.56	(81.5% utilization)
Avg buoys / trip	= 8.9	
Avg underway days / trip	= 2.0	
Total transit time	= 122:32	
Total service time	= 134:03	
Total idle time (not added)	= 138:09	
Total time		= 256:35
Total short transits	= 86	
Total length of short trips	= 2:06	
Additional prep/deprep time		= 19:24
Avg service time / nav aid	= 1:15	
Avg transit time / nav aid	= 1:20	
Avg total time / nav aid	= 2:35	
Total discrepancies	= 0	
Computed discrepancy hours		= 0:00
Additional Structure Visits	= 0	
Additional Structure hours		= 0:00
Total weather hours (not added)		= 0:00
Same time servicing (subtract)		= 0:00
Total ATON hours used		= 275:59
Historical ATON hours used		= 0:00

11:47:42

Tuesday 5/11/1993

ATON SERVICE FORCE MIX DSS

RAMBLER.REP

VESSEL SUMMARY REPORT

=====

Platform Characteristics

- BUSLR RAMBLER
- Homeport CHARLESTON, SC
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Nav aids assigned	=	35	(0 Seasonal)	
Total Nav aids serviced	=	33	(0 Seasonal)	
Total trips	=	5		
Underway days	=	10		
Deck Space Available	=	1125		
Deck Space Used	=	941.1	(83.7% utilization)	
Avg buoys / trip	=	6.6		
Avg underway days / trip	=	2.0		
Total transit time	=	67:14		
Total service time	=	37:45		
Total idle time (not added)	=	47:52		
Total time			=	104:59

Total short transits	=	15		
Total length of short trips	=	1:26		
Additional prep/deprep time			=	2:19

Avg service time / nav aid	=	1:09		
Avg transit time / nav aid	=	2:06		
Avg total time / nav aid	=	3:15		
Total discrepancies	=	0		
Computed discrepancy hours	=	0:00		

Additional Structure Visits	=	0		
Additional Structure hours	=	0:00		

Total weather hours (not added)	=	0:00		

Same time servicing (subtract)	=	0:00		

Total ATON hours used	=	107:18		=====
Historical ATON hours used	=	0:00		=====

11:47:31

Tuesday 5/11/1993

ATON SERVICE FORCE MIX DSS

SMILAX.REP

VESSEL SUMMARY REPORT

=====

Platform Characteristics

- BUSLR SMILAX
- Homeport BRUNSWICK, GA
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Nav aids assigned	=	24	(0 Seasonal)
Total Nav aids serviced	=	22	(0 Seasonal)
Total trips	=	4	
Underway days	=	8	
Deck Space Available	=	900	
Deck Space Used	=	513	(57.0% utilization)
Avg buoys / trip	=	5.5	
Avg underway days / trip	=	2.0	
Total transit time	=	78:55	
Total service time	=	24:30	
Total idle time (not added)	=	54:44	
Total time			= 103:25

Total short transits	=	7	
Total length of short trips	=	0:43	
Additional prep/deprep time	=	1:02	

Avg service time / nav aid	=	1:07	
Avg transit time / nav aid	=	3:38	
Avg total time / nav aid	=	4:45	
Total discrepancies	=	0	
Computed discrepancy hours	=	0:00	

Additional Structure Visits	=	0	
Additional Structure hours	=	0:00	

Total weather hours (not added)	=	0:00	

Same time servicing (subtract)	=	0:00	

Total ATON hours used	=	104:26	
			=====
Historical ATON hours used	=	0:00	
			=====

Tuesday 5/11/1993

ATON SERVICE FORCE MIX DSS

HAMMER.REP

VESSEL SUMMARY REPORT

Platform Characteristics

- BUSLR HAMMER
- Homeport MAYPORT, FL
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Nav aids assigned	=	9	(0 Seasonal)	
Total Nav aids serviced	=	8	(0 Seasonal)	
Total trips	=	2		
Underway days	=	3		
Deck Space Available	=	450		
Deck Space Used	=	59.7	(13.3% utilization)	
Avg buoys / trip	=	4.0		
Avg underway days / trip	=	1.5		
Total transit time	=	25:50		
Total service time	=	8:45		
Total idle time (not added)	=	8:02		
Total time			=	34:35
Total short transits	=	4		
Total length of short trips	=	0:22		
Additional prep/deprep time			=	0:38
Avg service time / nav aid	=	1:06		
Avg transit time / nav aid	=	3:18		
Avg total time / nav aid	=	4:24		
Total discrepancies	=	0		
Computed discrepancy hours			=	0:00
Additional Structure Visits	=	0		
Additional Structure hours			=	0:00
Total weather hours (not added)	=	0:00		
Same time servicing (subtract)	=	0:00		
Total ATON hours used			=	35:13
Historical ATON hours used			=	0:00

Tuesday 5/11/1993

ATON SERVICE FORCE MIX DSS

HUDSON.REP

VESSEL SUMMARY REPORT

=====

Platform Characteristics

- BUSLR HUDSON
- Homeport MIAMI, FL
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Nav aids assigned	=	27	(0 Seasonal)
Total Nav aids serviced	=	26	(0 Seasonal)
Total trips	=	4	
Underway days	=	8	
Deck Space Available	=	900	
Deck Space Used	=	347.4	(38.6% utilization)
Avg buoys / trip	=	6.5	
Avg underway days / trip	=	2.0	
Total transit time	=	71:24	
Total service time	=	28:00	
Total idle time (not added)	=	63:11	
Total time	=		99:24

Total short transits	=	19	
Total length of short trips	=	1:06	
Additional prep/deprep time	=		3:39

Avg service time / nav aid	=	1:05	
Avg transit time / nav aid	=	2:53	
Avg total time / nav aid	=	3:58	
Total discrepancies	=	0	
Computed discrepancy hours	=		0:00

Additional Structure Visits	=	0	
Additional Structure hours	=		0:00

Total weather hours (not added)	=		0:00

Same time servicing (subtract)	=		0:00

Total ATON hours used	=		103:04
			=====
Historical ATON hours used	=		0:00
			=====

Tuesday 5/11/1993

ATON SERVICE FORCE MIX DSS

WISE.REP

VESSEL SUMMARY REPORT

Platform Characteristics

- BUSLR WISE
- Homeport ST PETERSBURG, FL
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Nav aids assigned	=	4	(0 Seasonal)	
Total Nav aids serviced	=	3	(0 Seasonal)	
Total trips	=	1		
Underway days	=	2		
Deck Space Available	=	225		
Deck Space Used	=	33.6	(14.9% utilization)	
Avg buoys / trip	=	3.0		
Avg underway days / trip	=	2.0		
Total transit time	=	22:00		
Total service time	=	2:48		
Total idle time (not added)	=	11:47		
Total time			=	24:48
Total short transits	=	1		
Total length of short trips	=	0:12		
Additional prep/deprep time	=			0:03
Avg service time / nav aid	=	0:56		
Avg transit time / nav aid	=	7:21		
Avg total time / nav aid	=	8:17		
Total discrepancies	=	0		
Computed discrepancy hours	=			0:00
Additional Structure Visits	=	0		
Additional Structure hours	=			0:00
Total weather hours (not added)	=			0:00
Same time servicing (subtract)	=			0:00
Total ATON hours used	=			24:51
Historical ATON hours used	=			0:00

17:14:15
Wednesday 5/12/1993

ATON SERVICE FORCE MIX DSS

AXE_A.REP

VESSEL SUMMARY REPORT

Platform Characteristics

- BUSLR AXE A
- Homeport MOBILE, AL
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Nav aids assigned	= 162	(0 Seasonal)
Total Nav aids serviced	= 161	(0 Seasonal)
Total trips	= 22	
Underway days	= 47	
Deck Space Available	= 4950	
Deck Space Used	= 2030.17	(41.0% utilization)
Avg buoys / trip	= 7.3	
Avg underway days / trip	= 2.1	
Total transit time	= 474:40	
Total service time	= 191:42	
Total idle time (not added)	= 389:08	
Total time		= 666:22
Total short transits	= 115	
Total length of short trips	= 5:42	
Additional prep/deprep time		= 23:03
Avg service time / nav aid	= 1:11	
Avg transit time / nav aid	= 3:05	
Avg total time / nav aid	= 4:17	
Total discrepancies	= 0	
Computed discrepancy hours		= 0:00
Additional Structure Visits	= 0	
Additional Structure hours		= 0:00
Total weather hours (not added)		= 0:00
Same time servicing (subtract)		= 0:00

Total ATON hours used = 689:25
=====

Historical ATON hours used = 0:00
=====

17:13:10

Wednesday 5/12/1993

ATON SERVICE FORCE MIX DSS

AXE_B.REP

VESSEL SUMMARY REPORT

Platform Characteristics

- BUSLR AXE B
- Homeport PANAMA CITY, FL
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Navaids assigned	= 157	(0 Seasonal)
Total Navaids serviced	= 156	(0 Seasonal)
Total trips	= 16	
Underway days	= 35	
Deck Space Available	= 3600	
Deck Space Used	= 2443.86	(67.9% utilization)
Avg buoys / trip	= 9.8	
Avg underway days / trip	= 2.2	
Total transit time	= 179:40	
Total service time	= 195:06	
Total idle time (not added)	= 182:55	
Total time		= 374:46
Total short transits	= 129	
Total length of short trips	= 5:02	
Additional prep/deprep time		= 27:13
Avg service time / navaid	= 1:15	
Avg transit time / navaid	= 1:20	
Avg total time / navaid	= 2:35	
Total discrepancies	= 0	
Computed discrepancy hours		= 0:00
Additional Structure Visits	= 0	
Additional Structure hours		= 0:00
Total weather hours (not added)		= 0:00
Same time servicing (subtract)		= 0:00

Total ATON hours used = 401:58
=====

Historical ATON hours used = 0:00
=====

Tuesday 5/11/1993

ATON SERVICE FORCE MIX DSS

SAGINAW.REP

VESSEL SUMMARY REPORT

=====

Platform Characteristics

- BUSLR SAGINAW
- Homeport MOBILE, AL
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Navaid's assigned	=	57	(0 Seasonal)
Total Navaid's serviced	=	56	(0 Seasonal)
Total trips	=	6	
Underway days	=	12	
Deck Space Available	=	1350	
Deck Space Used	=	853.95	(63.3% utilization)
Avg buoys / trip	=	9.3	
Avg underway days / trip	=	2.0	
Total transit time	=	62:59	
Total service time	=	64:00	
Total idle time (not added)	=	77:48	
Total time			= 126:59

Total short transits	=	43	
Total length of short trips	=	2:17	
Additional prep/deprep time	=	8:28	

Avg service time / navaid	=	1:09	
Avg transit time / navaid	=	1:17	
Avg total time / navaid	=	2:25	
Total discrepancies	=	0	
Computed discrepancy hours	=	0:00	

Additional Structure Visits	=	0	
Additional Structure hours	=	0:00	

Total weather hours (not added)	=	0:00	

Same time servicing (subtract)	=	0:00	

Total ATON hours used	=	135:27	
			=====
Historical ATON hours used	=	0:00	
			=====

0:44:13

Tuesday 5/11/1993

ATON SERVICE FORCE MIX DSS

W-HOLLY.REP

VESSEL SUMMARY REPORT

=====

Platform Characteristics

- BUSLR WHITE HOLLY
- Homeport NEW ORLEANS, LA
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Nav aids assigned	=	50	(44 Seasonal)	
Total Nav aids serviced	=	49	(44 Seasonal)	
Total trips	=	16		
Underway days	=	24		
Deck Space Available	=	3600		
Deck Space Used	=	3087.4	(85.8% utilization)	
Avg buoys / trip	=	5.8		
Avg underway days / trip	=	1.5		
Total transit time	=	209:18		
Total service time	=	48:18		
Total idle time (not added)	=	54:24		
Total time			=	257:36

Total short transits	=	50		
Total length of short trips	=	5:37		
Additional prep/deprep time			=	6:53

Avg service time / nav aid	=	0:31		
Avg transit time / nav aid	=	2:19		
Avg total time / nav aid	=	2:51		
Total discrepancies	=	9.94815		
Computed discrepancy hours			=	28:18

Additional Structure Visits	=	0		
Additional Structure hours			=	0:00

Total weather hours (not added)	=	1:52		

Same time servicing (subtract)	=	2:25		

Total ATON hours used			=	290:22
				=====
Historical ATON hours used			=	0:00
				=====

Tuesday 5/11/1993

ATON SERVICE FORCE MIX DSS

WEDGE.REP

VESSEL SUMMARY REPORT

Platform Characteristics

- BUSLR WEDGE
- Homeport NEW ORLEANS, LA
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Nav aids assigned	=	12	(0 Seasonal)	
Total Nav aids serviced	=	11	(0 Seasonal)	
Total trips	=	1		
Underway days	=	2		
Deck Space Available	=	225		
Deck Space Used	=	144.9	(64.4% utilization)	
Avg buoys / trip	=	11.0		
Avg underway days / trip	=	2.0		
Total transit time	=	11:30		
Total service time	=	11:00		
Total idle time (not added)	=	12:42		
Total time			=	22:30
Total short transits	=	8		
Total length of short trips	=	0:59		
Additional prep/deprep time	=			1:01
Avg service time / nav aid	=	1:00		
Avg transit time / nav aid	=	1:08		
Avg total time / nav aid	=	2:08		
Total discrepancies	=	0		
Computed discrepancy hours	=			0:00
Additional Structure Visits	=	0		
Additional Structure hours	=			0:00
Total weather hours (not added)	=			0:00
Same time servicing (subtract)	=			0:00
Total ATON hours used	=			23:31
Historical ATON hours used	=			0:00

Tuesday 5/11/1993

ATON SERVICE FORCE MIX DSS

PAMLICO.REP

VESSEL SUMMARY REPORT

Platform Characteristics

- BUSLR PAMLICO
- Homeport NEW ORLEANS, LA
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Navaid assigned	=	88	(0 Seasonal)	
Total Navaid serviced	=	87	(0 Seasonal)	
Total trips	=	12		
Underway days	=	29		
Deck Space Available	=	2700		
Deck Space Used	=	580.47	(21.5% utilization)	
Avg buoys / trip	=	7.3		
Avg underway days / trip	=	2.4		
Total transit time	=	270:12		
Total service time	=	88:21		
Total idle time (not added)	=	176:47		
Total time			=	358:33
Total short transits	=	60		
Total length of short trips	=	3:21		
Additional prep/deprep time			=	11:39
Avg service time / navaid	=	1:01		
Avg transit time / navaid	=	3:14		
Avg total time / navaid	=	4:15		
Total discrepancies	=	0		
Computed discrepancy hours			=	0:00
Additional Structure Visits	=	0		
Additional Structure hours			=	0:00
Total weather hours (not added)	=			0:00
Same time servicing (subtract)	=			0:00
Total ATON hours used			=	370:11
Historical ATON hours used			=	0:00

Tuesday 5/11/1993

ATON SERVICE FORCE MIX DSS

CLAMP.REP

VESSEL SUMMARY REPORT

Platform Characteristics

- BUSLR CLAMP
- Homeport GALVESTON, TX
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Nav aids assigned	= 121	(0 Seasonal)
Total Nav aids serviced	= 120	(0 Seasonal)
Total trips	= 8	
Underway days	= 15	
Deck Space Available	= 1800	
Deck Space Used	= 1105.83	(61.4% utilization)
Avg buoys / trip	= 15.0	
Avg underway days / trip	= 1.9	
Total transit time	= 33:30	
Total service time	= 118:54	
Total idle time (not added)	= 89:39	
Total time		= 152:24
Total short transits	= 102	
Total length of short trips	= 7:13	
Additional prep/deprep time		= 18:17
Avg service time / nav aid	= 0:59	
Avg transit time / nav aid	= 0:26	
Avg total time / nav aid	= 1:25	
Total discrepancies	= 0	
Computed discrepancy hours		= 0:00
Additional Structure Visits	= 0	
Additional Structure hours		= 0:00
Total weather hours (not added)		= 0:00
Same time servicing (subtract)		= 0:00
Total ATON hours used		= 170:41
Historical ATON hours used		= 0:00

Tuesday 5/11/1993

ATON SERVICE FORCE MIX DSS

HATCHET.REP

VESSEL SUMMARY REPORT

Platform Characteristics

- BUSLR HATCHET
- Homeport GALVESTON, TX
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Navaids assigned	= 129	(0 Seasonal)	
Total Navaids serviced	= 128	(0 Seasonal)	
Total trips	= 12		
Underway days	= 29		
Deck Space Available	= 2700		
Deck Space Used	= 619.2	(22.9% utilization)	
Avg buoys / trip	= 10.7		
Avg underway days / trip	= 2.4		
Total transit time	= 242:37		
Total service time	= 125:57		
Total idle time (not added)	= 120:44		
Total time		= 368:34	
Total short transits	= 98		
Total length of short trips	= 4:14		
Additional prep/deprep time		= 20:16	
Avg service time / navaid	= 0:59		
Avg transit time / navaid	= 2:03		
Avg total time / navaid	= 3:02		
Total discrepancies	= 0		
Computed discrepancy hours		= 0:00	
Additional Structure Visits	= 0		
Additional Structure hours		= 0:00	
Total weather hours (not added)		= 0:00	
Same time servicing (subtract)		= 0:00	
Total ATON hours used		= 388:50	
Historical ATON hours used		= 0:00	

Tuesday 5/11/1993

ATON SERVICE FORCE MIX DSS

ANVIL.REP

VESSEL SUMMARY REPORT

=====

Platform Characteristics

- BUSLR ANVIL
- Homeport CORPUS CHRISTI, TX
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Nav aids assigned	= 217	(0 Seasonal)
Total Nav aids serviced	= 215	(0 Seasonal)
Total trips	= 19	
Underway days	= 44	
Deck Space Available	= 4275	
Deck Space Used	= 2058.82	(48.2% utilization)
Avg buoys / trip	= 11.3	
Avg underway days / trip	= 2.3	
Total transit time	= 242:26	
Total service time	= 233:18	
Total idle time (not added)	= 228:58	
Total time		= 475:44

Total short transits	= 185	
Total length of short trips	= 9:48	
Additional prep/deprep time		= 36:27

Avg service time / nav aid	= 1:05	
Avg transit time / nav aid	= 1:18	
Avg total time / nav aid	= 2:23	
Total discrepancies	= 0	
Computed discrepancy hours		= 0:00

Additional Structure Visits	= 0	
Additional Structure hours		= 0:00

Total weather hours (not added)		= 0:00

Same time servicing (subtract)		= 0:00

Total ATON hours used	= 512:12	=====
Historical ATON hours used	= 0:00	=====

Tuesday 5/11/1993

ATON SERVICE FORCE MIX DSS

MALLET.REP

VESSEL SUMMARY REPORT

=====

Platform Characteristics

- BUSLR MALLET
- Homeport CORPUS CHRISTI, TX
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Navaid assignments	= 284	(0 Seasonal)
Total Navaid services	= 282	(0 Seasonal)
Total trips	= 27	
Underway days	= 60	
Deck Space Available	= 6075	
Deck Space Used	= 2384.85	(39.3% utilization)
Avg buoys / trip	= 10.4	
Avg underway days / trip	= 2.2	
Total transit time	= 452:51	
Total service time	= 308:09	
Total idle time (not added)	= 458:47	
Total time		= 761:00

Total short transits	= 230	
Total length of short trips	= 12:40	
Additional prep/deprep time		= 44:50

Avg service time / navaid	= 1:06	
Avg transit time / navaid	= 1:46	
Avg total time / navaid	= 2:51	
Total discrepancies	= 0	
Computed discrepancy hours		= 0:00

Additional Structure Visits	= 0	
Additional Structure hours		= 0:00

Total weather hours (not added)		= 0:00

Same time servicing (subtract)		= 0:00

Total ATON hours used	= 805:50	=====
Historical ATON hours used	= 0:00	=====

10:43:13
Tuesday 5/11/1993

ATON SERVICE FORCE MIX DSS

BUCKTHOR.REP

VESSEL SUMMARY REPORT

=====

Platform Characteristics

- BUSLR BUCKTHORN
- Homeport SAULT STE. MARIE, MI
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Navaid's assigned	=	261	(182 Seasonal)
Total Navaid's serviced	=	218	(140 Seasonal)
Total trips	=	74	
Underway days	=	90	
Deck Space Available	=	16650	
Deck Space Used	=	14217.9	(85.4% utilization)
Avg buoys / trip	=	4.8	
Avg underway days / trip	=	1.2	
Total transit time	=	473:35	
Total service time	=	211:45	
Total idle time (not added)	=	199:58	
Total time			= 685:20

Total short transits	=	249	
Total length of short trips	=	15:58	
Additional prep/deprep time	=	46:17	

Avg service time / navaid	=	0:35	
Avg transit time / navaid	=	1:27	
Avg total time / navaid	=	2:03	
Total discrepancies	=	0	
Computed discrepancy hours	=	0:00	

Additional Structure Visits	=	0	
Additional Structure hours	=	0:00	

Total weather hours (not added)	=	0:00	

Same time servicing (subtract)	=	0:00	

Total ATON hours used	=	731:36	=====
Historical ATON hours used	=	0:00	=====

8:39:14

Thursday 5/13/1993

ATON SERVICE FORCE MIX DSS

BLUEBEL1.REP

VESSEL SUMMARY REPORT

Platform Characteristics

- BUSLR BLUEBELL A
- Homeport PORTLAND, OR
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Nav aids assigned	=	64	(0 Seasonal)
Total Nav aids serviced	=	63	(0 Seasonal)
Total trips	=	11	
Underway days	=	22	
Deck Space Available	=	2475	
Deck Space Used	=	613.185	(24.8% utilization)
Avg buoys / trip	=	5.7	
Avg underway days / trip	=	2.0	
Total transit time	=	240:04	
Total service time	=	66:15	
Total idle time (not added)	=	107:33	
Total time	=	306:19	
Total short transits	=	23	
Total length of short trips	=	1:45	
Additional prep/deprep time	=	4:00	
Avg service time / nav aid	=	1:03	
Avg transit time / nav aid	=	3:52	
Avg total time / nav aid	=	4:56	
Total discrepancies	=	0	
Computed discrepancy hours	=	0:00	
Additional Structure Visits	=	0	
Additional Structure hours	=	0:00	
Total weather hours (not added)	=	0:00	
Same time servicing (subtract)	=	0:00	
Total ATON hours used	=	310:19	
Historical ATON hours used	=	0:00	

8:39:28
Thursday 5/13/1993

ATON SERVICE FORCE MIX DSS

BLUBEL_B.REP

VESSEL SUMMARY REPORT

Platform Characteristics

- BUSLR BLUEBELL B
- Homeport LAKE WALLULA DAYBEACON 49
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Navaid's assigned	=	23	(0 Seasonal)
Total Navaid's serviced	=	22	(0 Seasonal)
Total trips	=	10	
Underway days	=	11	
Deck Space Available	=	2250	
Deck Space Used	=	33.6	(1.5% utilization)
Avg buoys / trip	=	2.2	
Avg underway days / trip	=	1.1	
Total transit time	=	75:33	
Total service time	=	24:06	
Total idle time (not added)	=	13:01	
Total time			= 99:39
Total short transits	=	7	
Total length of short trips	=	0:52	
Additional prep/deprep time			= 0:53
Avg service time / navaid	=	1:06	
Avg transit time / navaid	=	3:28	
Avg total time / navaid	=	4:34	
Total discrepancies	=	0	
Computed discrepancy hours			= 0:00
Additional Structure Visits	=	0	
Additional Structure hours			= 0:00
Total weather hours (not added)	=	0:00	
Same time servicing (subtract)	=	0:00	
Total ATON hours used			= 100:32
Historical ATON hours used			= 0:00

11:44:26

Tuesday 5/11/1993

ATON SERVICE FORCE MIX DSS

BLUEBELL.REP

VESSEL SUMMARY REPORT

Platform Characteristics

- BUSLR BLUEBELL
- Homeport PORTLAND, OR
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Nav aids assigned	=	86	(0 Seasonal)
Total Nav aids serviced	=	75	(0 Seasonal)
Total trips	=	15	
Underway days	=	42	
Deck Space Available	=	3375	
Deck Space Used	=	646.785	(19.2% utilization)
Avg buoys / trip	=	5.0	
Avg underway days / trip	=	2.8	
Total transit time	=	512:54	
Total service time	=	81:12	
Total idle time (not added)	=	93:44	
Total time			= 594:06
Total short transits	=	24	
Total length of short trips	=	1:45	
Additional prep/deprep time	=	4:15	
Avg service time / nav aid	=	1:05	
Avg transit time / nav aid	=	6:54	
Avg total time / nav aid	=	7:59	
Total discrepancies	=	0	
Computed discrepancy hours	=	0:00	
Additional Structure Visits	=	0	
Additional Structure hours	=	0:00	
Total weather hours (not added)	=	0:00	
Same time servicing (subtract)	=	0:00	
Total ATON hours used	=	598:20	=====
Historical ATON hours used	=	0:00	=====

11:46:35

Tuesday 5/11/1993

ATON SERVICE FORCE MIX DSS

BAYBERRY.REP

VESSEL SUMMARY REPORT

=====

Platform Characteristics

- BUSLR BAYBERRY
- Homeport SEATTLE, WA
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Nav aids assigned	=	60	(1 Seasonal)
Total Nav aids serviced	=	57	(1 Seasonal)
Total trips	=	7	
Underway days	=	14	
Deck Space Available	=	1575	
Deck Space Used	=	516.15	(32.8% utilization)
Avg buoys / trip	=	8.3	
Avg underway days / trip	=	2.0	
Total transit time	=	116:46	
Total service time	=	62:18	
Total idle time (not added)	=	68:36	
Total time			= 179:04

Total short transits	=	34	
Total length of short trips	=	1:43	
Additional prep/deprep time	=	6:47	

Avg service time / nav aid	=	1:04	
Avg transit time / nav aid	=	2:08	
Avg total time / nav aid	=	3:12	
Total discrepancies	=	0	
Computed discrepancy hours	=	0:00	

Additional Structure Visits	=	0	
Additional Structure hours	=	0:00	

Total weather hours (not added)	=	0:00	

Same time servicing (subtract)	=	0:00	

Total ATON hours used	=	185:51	
			=====
Historical ATON hours used	=	0:00	
			=====

11:47:10

Tuesday 5/11/1993

ATON SERVICE FORCE MIX DSS

ELDERBRY.REP

VESSEL SUMMARY REPORT

=====

Platform Characteristics

- BUSLR ELDERBERRY
- Homeport PETERSBURG, AK
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Nav aids assigned	=	29	(15 Seasonal)
Total Nav aids serviced	=	27	(15 Seasonal)
Total trips	=	9	
Underway days	=	12	
Deck Space Available	=	2025	
Deck Space Used	=	1082.25	(53.4% utilization)
Avg buoys / trip	=	4.7	
Avg underway days / trip	=	1.3	
Total transit time	=	227:10	
Total service time	=	27:18	
Total idle time (not added)	=	71:57	
Total time			= 254:28

Total short transits	=	29	
Total length of short trips	=	1:23	
Additional prep/deprep time	=	5:52	

Avg service time / nav aid	=	0:39	
Avg transit time / nav aid	=	5:33	
Avg total time / nav aid	=	6:12	
Total discrepancies	=	0	
Computed discrepancy hours	=	0:00	

Additional Structure Visits	=	0	
Additional Structure hours	=	0:00	

Total weather hours (not added)	=	0:00	

Same time servicing (subtract)	=	0:00	

Total ATON hours used	=	260:19	
			=====
Historical ATON hours used	=	0:00	
			=====

APPENDIX H. DSS REPORT FOR SFM 2000 NEW ORLEANS BUSLR

9:44:8

Thursday 5/20/1993

ATON SERVICE FORCE MIX DSS

W-HOLLY.REP

VESSEL SUMMARY REPORT

=====

Platform Characteristics

- BUSLR WHITE HOLLY
- Homeport NEW ORLEANS, LA
- 8 knot average transit speed
- 48 hour maximum cruise length
- work day is 6:00 to 16:00
- 225 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 1/1/1991 at 6:00
(Window size = 365 days, Step size = 5 days)

Summary Statistics

Total Nav aids assigned	=	50	(44 Seasonal)
Total Nav aids serviced	=	49	(44 Seasonal)
Total trips	=	16	
Underway days	=	24	
Deck Space Available	=	3600	
Deck Space Used	=	3087.4	(85.8% utilization)
Avg buoys / trip	=	5.8	
Avg underway days / trip	=	1.5	
Total transit time	=	209:18	
Total service time	=	48:18	
Total idle time (not added)	=	54:24	
Total time			= 257:36

Total short transits	=	50	
Total length of short trips	=	5:37	
Additional prep/deprep time			= 6:53

Avg service time / nav aid	=	0:31	
Avg transit time / nav aid	=	2:19	
Avg total time / nav aid	=	2:51	
Total discrepancies	=	9.94815	
Computed discrepancy hours			= 28:18

Additional Structure Visits	=	0	
Additional Structure hours			= 0:00

Total weather hours (not added)	=	1:52	

Same time servicing (subtract)	=	2:25	

Total ATON hours used = 290:22
=====

Historical ATON hours used = 0:00
=====

H-1/2